

PERSEREC



Technical Report 02-5
July 2002

Espionage Against the United States by American Citizens 1947-2001

Katherine L. Herbig
Martin F. Wiskoff
TRW Systems

20030304 090

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Research Conducted by
Defense Personnel Security Research Center

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Katherine L. Herbig
Martin F. Wiskoff
TRW Systems

Released by
James A. Riedel
Director

Defense Personnel Security Research Center
99 Pacific Street, Building 455-E
Monterey, CA 93940-2497

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
<p>The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p> <p>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.</p>				
1. REPORT DATE (DD-MM-YYYY) July 2002		2. REPORT TYPE Technical		3. DATES COVERED (From - To) 1947 - 2001
4. TITLE AND SUBTITLE Espionage Against the United States by American Citizens 1947-2001			5a. CONTRACT NUMBER	
			5b. GRANT NUMBER	
			5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Katherine L. Herbig, Ph.D. Martin F. Wiskoff, Ph.D.			5d. PROJECT NUMBER	
			5e. TASK NUMBER	
			5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Defense Personnel Security Research Center 99 Pacific Street, Bldg. 455-E Monterey, CA 93940-2497			8. PERFORMING ORGANIZATION REPORT NUMBER PERSEREC-TR 02-5	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Defense Personnel Security Research Center 99 Pacific Street, Bldg. 455-E Monterey, CA 93940-2497			10. SPONSORING/MONITOR'S ACRONYM(S)	
			11. SPONSORING/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Unclassified				
13. SUPPLEMENTARY NOTES				
14. ABSTRACT Analyses of 150 cases of espionage against the United States by American citizens between 1947 and 2001 provide detailed data on the demographic and employment characteristics of American spies, on the means and methods they used to commit espionage, on their motivations, and on the consequences they suffered. Collected materials on the cases supplement the analyses conducted with a database that allows comparison of groups and the identification of trends. Factors highlighted include changes in espionage by Americans since the end of the Cold War and the impact of globalization and networked information systems on the practice of espionage.				
15. SUBJECT TERMS Espionage Spying Counterintelligence Personnel Security Investigation Personnel Security Adjudication				
16. SECURITY CLASSIFICATION OF: Unclassified		17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON James A. Riedel, Director
a. REPORT Unclassified	b. ABSTRACT Unclassified			c. THIS PAGE Unclassified

Standard Form 298 (Rev. 8/98)
Prescribed by ANSI Std. Z39.18

Preface

In a 1985 report, *Keeping the Nation's Secrets*, the Stilwell Commission expressed grave concern over the increase in espionage by Americans reported in the 1980s. It pointed to a dearth of research on espionage and on personnel security that could have guided the Commission's deliberations. The Defense Personnel Security Research Center (PERSEREC) was established in 1986 to provide policy-makers with such research. As part of its broader research agenda, PERSEREC constructed a database that permits analysis of espionage against the United States by its own citizens. This report updates and extends an initial PERSEREC report on the results of that analysis. Suzanne Wood and Martin Wiskoff authored the initial report, published in 1992 and entitled *Americans Who Spied Against Their Country Since World War II*.

The PERSEREC espionage database is based on open source information. We have continued to add cases to the database since 1992, and it now includes cases that date from 1947 through 2001, plus one unusual case that began in 1942. We maintain a separate database of cases of espionage by Americans that date from the period before and during World War II and the immediate post-war period.

The espionage database we discuss in this report consists of information collected and derived from unclassified sources on the personal and job characteristics of 150 individuals, and on the characteristics of the acts of espionage or attempted espionage they committed. Our analysis begins with the personal characteristics of Americans who spied, including employment and clearance status, how and when the espionage was carried out, and consequences these individuals suffered. In the second section of analysis, we compare cases by the length of their espionage. Subsequent sections compare military offenders with civilians, and volunteers with recruits, and if the individual was recruited, whether by a foreign intelligence service or by family or friends. A fifth section compares motivations for espionage in the various time periods and how motives have changed over time. Additional sections compare lone spies with those who worked with partners or in groups, and characteristics of American female spies.

In the Results and Discussion section, we next apply some of our analytical findings on espionage to various aspects of the personnel security system, including the criteria for personnel security that are expressed in the federal *Adjudicative Guidelines*, patterns in espionage that could be used to improve the security clearance system, and applications to security awareness issues, including co-worker reporting and position vulnerability assessment. The last sections explore trends in the number of Americans actively spying over the last half-century and the recipients of their information, changes in espionage by Americans since the collapse of the Soviet Union in 1991, and two key trends that are affecting espionage in the post-Cold War period.

These results will be useful to Department of Defense (DoD) policy-makers in framing security countermeasures and security policy. It will also assist DoD component specialists who conduct counterintelligence and security countermeasures education, training, and security

awareness programs for their respective services. Individuals in government, the news media, and in academia who wish to better understand trends and themes in espionage by American citizens will be interested in the analyses based on the espionage database.

James A. Riedel
Director

Acknowledgements

We wish to extend special thanks to Susan Hagan, who located and researched many additional cases that were included in the espionage database. Susan also revised the structure of the database to incorporate new variables, ran multiple series of analyses to update tables and figures for this revision, and wrote the first draft of this updated report.

Executive Summary

Introduction

PERSEREC developed an unclassified database of Americans involved in espionage against the United States since 1945, and in 1992 published a report on it entitled *Americans Who Spied Against Their Country Since World War II*. The goal of the original project was to analyze the cases in terms of themes and trends that would further our understanding of the phenomenon of espionage.

Since 1992, further instances of espionage by American citizens have come to light, and we have continued to enter them into an espionage database. An updated analysis incorporating recent cases seemed useful. In this update we redefined the parameter of the database and of the report to include only Cold War cases, and we created a separate database with cases from the era of World War II. The date of the beginning of the Cold War is debatable, so we chose a starting point in the late 1940s for the database discussed in this report; this allowed us to include cases of espionage from the late 1940s that resembled those in the 1950s, and to exclude cases that were more like those in the war years. This study covers the time period 1947 through 2001.

Our databases continue to be based on open source materials. In the espionage database we have included 150 individuals who were convicted or prosecuted for espionage or for attempting to commit espionage, or for whom clear evidence of espionage exists, even though for various reasons they were not convicted. This latter category includes people who defected before they were prosecuted, those who died or committed suicide before they could be prosecuted, and those who plea-bargained for lesser charges or who were given immunity from prosecution.

This unclassified study, like its predecessor in 1992, deals with individuals whose names and cases surfaced in open source materials. It is impossible to know how many more spies have been identified but whose cases remain classified, how many were identified but not prosecuted (often to prevent the release of information in open court), how many spied in the past and were not identified, or how many are spying at present and remain unidentified. Unfortunately for the student of espionage, government records include more cases of espionage than are described here, but access to these is classified and restricted to the relatively small, cleared community. This database represents the information that is publicly available; it is an open source subset of the larger universe of all espionage committed by American citizens.

Background

We discuss two issues as background for our analysis of espionage. We briefly summarize the 20th century history of espionage by the Union of Soviet Socialist Republics (USSR) against the United States, because the USSR has been the main market for information from American spies. We then survey the shifting policies of the federal government on public prosecution of espionage, because these shifts in policy have directly affected the incidence of known cases in various periods of time during and after the Cold War. We cannot hope to make

accurate statements about the incidence of espionage without taking into account the prosecution policies that were in effect.

Approach

Five categories of information were gathered in PERSEREC's espionage database: biographic attributes, employment and related security clearance characteristics, details of the act of espionage itself, motivations, and consequences. Frequencies were figured on available data for the entire group of cases. In addition to the presentation of basic demographic data, various comparisons were made: (a) spies intercepted the first time they attempted espionage vs. those who transmitted information, (b) uniformed military vs. civilian spies, (c) spies who volunteered vs. those who were recruited, (d) motivations to commit espionage and how they changed over time, (e) lone spies vs. those with partners or in groups, (f) female spies, and (g) spies from the 1990s vs. earlier periods of time.

These analyses on espionage were then applied to several personnel security issues, including the following: the criteria for personnel security as expressed in the federal *Adjudicative Guidelines*; insights from the analyses of espionage that could be used to improve the security clearance system; and issues in security awareness, including co-worker reporting and position vulnerability assessment. The last parts of the Results and Discussion section discuss trends in the number of Americans actively spying over the last half-century and the recipients of their information, an exploration of changes in espionage by Americans since the collapse of the Soviet Union in 1991, and two key trends that are shaping espionage in the post-Cold War period.

Appendix A lists the names of the 150 cases and presents selected variables from the database. Cross-tabulations were performed to refine some of the issues discussed in the report, and these appear in Appendix B.

Summary of Findings

This summary includes only major findings, which are supplemented with others and presented in more detail in the body of the report.

Background

- From its founding in 1917, the Soviet Union conducted a determined espionage program in the United States that attempted to recruit American citizens to spy for the Soviets.
- From several dozen spies in the 1930s, the number of Americans committing espionage for the Soviets grew during World War II to several hundred; then these numbers sharply declined in the early Cold War years just at the time when public concern focused on the loyalties of government employees.
- Between 1950 and 1975, most cases of espionage by Americans that were prosecuted were members of the military services or civilians employed by the military.

- A shift in policies on prosecuting espionage by Americans in the mid-to-late 1970s, and the enactment of new laws including the Foreign Intelligence Surveillance Act (FISA) and the Classified Information Procedures Act (CIPA), were responsible in part for the threefold increase in espionage cases made public in the 1980s.

Personal Attributes

- Most American spies have been white males younger than 30.
- Almost half (46%) of known American spies had only a high school education or less.

Employment and Clearance

- Almost equal numbers of civilians and members of the military have spied: 77 civilians and 73 military.
- A majority of military spies have come from the upper enlisted ranks.
- Over the period from 1947 through 2001, twice as many Americans volunteered to commit espionage as were recruited into it.
- Among civilian spies, one-fourth have been employees of government contractors.
- One-fourth of American spies held no security clearance when they began espionage. However, this statement includes a variety of scenarios, including persons who had had access to classified information previously and who relied on memory; persons who stockpiled documents before they lost access; persons who relied on a relationship with a cleared person for access to information; persons who stole classified information; and persons who offered unclassified information deemed sensitive enough to warrant prosecution for espionage.

Patterns in the Act of Espionage

- Most espionage by Americans has been short-lived and poorly paid. Almost half of American spies received nothing for the risks they took in espionage, usually because they were quickly intercepted before they could transmit information. Over the 50-year period, only four individuals may have received \$1 million or more. Regardless of payment, there have been instances of long-term espionage that did serious damage to U.S. interests.
- One-fourth of known Americans who tried to commit espionage were intercepted before they could transmit information and were apprehended in the attempt; only one-fifth of known cases lasted 5 years or longer.

- Three-fourths of these cases of interception of espionage by Americans occurred during the 1980s, making this less the “decade of the spy,” as has been claimed, so much as the “decade of the *unsuccessful* spy.”
- Of the 39 cases in which the individual was intercepted before the passing of information, 37 were offering Department of Defense information.
- In each decade between 1950 and 1990, the rate of Americans beginning to spy exceeded the rate of those arrested; only in the 1990s did the rate of those caught exceed the rate who began, when two per year began to spy while three per year were caught.
- Among those Americans recruited into espionage by a foreign intelligence service, all but one individual succeeded in transmitting information.
- Ten of the 11 American women who spied worked as the accomplices or partners of men.
- The number of Americans currently known to have attempted or committed espionage peaked at 35 in 1985, but since then the number per year has been declining to pre-1980s levels.
- Americans who succeeded in transmitting information were older, better educated, more often civilians, and more likely to be married than those who were interrupted in an attempt at spying. The most “successful,” defined by a public impression of the damage they inflicted and the duration of their espionage, came from most of the civilian agencies and military services. They included persons who reflected the full range of access to classified information from the highest security clearance down to no clearance at all. Among these most “successful” spies, those widely known include: Aldrich Ames (CIA), Christopher Boyce (contractor employee) and Andrew Lee (uncleared civilian), Jeffrey Carney (active duty Air Force), Larry Wu-tai Chin (CIA), Clyde Conrad and the members of his ring (active duty Army), James Hall (active duty Army), Robert Hanssen (FBI), James Harper (uncleared civilian) and Ruby Schuler (contractor employee), Ronald Pelton (NSA), Earl Pitts (FBI), Jonathan Pollard (civilian Navy employee), and John Walker, Jr. and the members of his ring (active duty Navy).

Motivations

- Americans most consistently have cited money as the dominant motive for espionage, and over time money has increased in predominance among motives.
- Of individuals who professed a single motive for espionage, one-fourth of civilians but three-fourths of members of the military claimed that they had spied for money.
- Among volunteer spies, disgruntlement with the workplace was cited as a significant motive: nearly one-fifth of volunteers with a single motive said they had spied from disgruntlement.

Foreign Attachments

- Among the 150 American spies, 83% were native born, while 17% were naturalized citizens. This represents four times the proportion of naturalized citizens in the U.S. population as a whole. (According to the 2000 decennial census, naturalized citizens were 3.8% of the population) (U.S. Census Bureau, 2000).
- Of American spies who had foreign attachments (defined as relatives living overseas or non-U.S. citizens living here, emotional ties of relationship or professional ties to such individuals, or business connections abroad), two-fifths were recruited by a foreign intelligence service, compared to the group who did not have foreign attachments in which 6 % were recruited by foreign intelligence. This reinforces concern that foreign attachments represent security vulnerabilities.
- Among American spies, naturalized citizens were more likely to be recruited by a foreign intelligence service than native-born Americans; among those who were naturalized, 46% were recruited by foreign intelligence while 42% volunteered. Native-born American spies were more likely to volunteer to commit espionage, since only 17% were recruited by foreign intelligence while 68% volunteered. Similar small proportions of naturalized and native-born citizens were recruited by a friend or family member (naturalized=12%, native-born=15%).

Applications to the Personnel Security System

- Most known American spies (80%) demonstrated one or more conditions or behaviors of security concern defined in the *Adjudicative Guidelines for Determining Eligibility for Access to Classified Information*. However, given the incidence of these issues among the cleared population and the relative rarity of espionage, these factors cannot by themselves predict espionage.
- One-fourth of known American spies experienced a personal life crisis (such as a divorce, death of someone close, or a love affair gone awry) in the months before they decided to attempt espionage.
- Very few people apply for access to classified information intending to commit espionage; optimal use of personnel security resources for countering espionage would focus more on periodic reevaluation and continuing assessment of experienced cleared personnel.
- Personnel security vetting is not designed to identify ongoing espionage and it has not done so: at least six Americans were screened and then maintained their security clearances during periods when they were also committing espionage.
- Reports of behaviors of security concern or personal crises by co-workers have led to the apprehension of some American spies, but reluctance to report these issues has also allowed other spies to persist in their crimes.

Changes in Espionage by Americans Since the End of the Cold War

- The Soviet Union has predominated as the recipient of information from American spies, but 17 other countries have also been willing recipients.
- Since the end of the Cold War in 1991, some 20 Americans have attempted or committed espionage, but characteristics of American spies have changed. Compared to earlier cohorts, Americans who began spying during the 1990s have been:
 - Older, with a median age of 39,
 - More demographically heterogeneous, with more women and more ethnic minorities,
 - More often civilian, with twice as many government employees and twice as many contractors,
 - More “successful,” with four-fifths passing information,
 - More likely to volunteer to commit espionage, with a 70% rate of volunteering that parallels the rate of volunteering in the 1980s,
 - More likely to hold lower-level security clearances or no clearance,
 - More likely to be naturalized citizens,
 - More likely to have foreign attachments, with half of the individuals having foreign attachments,
 - More likely to cite divided loyalties as their single motive for espionage, with half of the cases citing divided loyalties.

Trends Affecting Espionage in the Future: Globalization and Information Transmission

- Globalization is rapidly creating new international conditions based on global economics that will affect the allegiance of citizens. This development assures that economic espionage will become more important, as dual use technologies blur the distinction between national defense and industrial applications.
- Globalization will demand a new understanding of the meaning of loyalty to the nation and how espionage intersects with loyalty.
- The current revolution in information and communications technologies is changing the scope and practice of espionage: spies’ methods of collection, synthesis, and transmission of information are shifting to take advantage of opportunities in these new technologies.

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Introduction

The gathering of information by intelligence agents, especially in wartime, is an age-old strategy for gaining superiority over rivals. Intelligence officers, working for government intelligence agencies, advance their nation's interests by gathering information. Among their best sources are citizens of rival nations who give or sell them information they seek. Acts of espionage like these betray the obligation, implicit in citizenship, to support the nation and avoid helping those who would harm it. This report examines a small group of U.S. citizens who betrayed their country in this way, by providing or attempting to provide classified or sensitive national defense information to foreign powers.

The context of this study is the Cold War between the United States and the Soviet Union and the post-Cold War period, from roughly 1947 to 2001. By passing nuclear secrets to the Soviets during and soon after World War II, American spies helped to set the terms of the early Cold War as a competition between nuclear powers. Once the USSR collapsed in 1991, some American spies who were in place persisted and worked for the Russians, and since 1991 others have taken up the work for a variety of new masters in the current global contest for information. Obviously, the main adversary during the time period of our study was the Soviet Union, with its determined worldwide espionage program and the Eastern Bloc countries it dominated, but there have been other adversaries as well.

In response to an alarming number of espionage cases by Americans in the early 1980s, in 1985 Congress established the Stilwell Commission to investigate this phenomenon of espionage that suddenly seemed to be mushrooming. It directed the commission to review and evaluate security policies and procedures in the Department of Defense, and to identify weaknesses in the Department's security programs. Among other suggestions, the Stilwell Commission recommended that research be conducted in the area of personnel security so that policy-makers could have data on which to base new policy initiatives (DoD Security Review Commission, 1985). The Defense Personnel Security Research Center, PERSEREC, was established in 1986 for this purpose.

As one of PERSEREC's initial research efforts, we began to compile an espionage database on Americans involved with espionage against the United States since World War II. We compiled the database from publicly available sources, in order to allow the widest possible dissemination of information to policy-makers and to others within and outside the government who would be interested in understanding trends and themes in espionage. Along with building the database, we began to collect open source literature on American spy cases. These files have grown steadily with press clippings and articles, scholarly and journalistic treatments of cases, and, where available, documentary sources such as affidavits, interviews with spies, and other materials. The database allows the analysis of characteristics and trends across the cases; studying details of the cases in the files forces us to confront the particularities and the historical context of a case.

The initial publication based on the espionage database, entitled *Americans Who Spied Against Their Country Since World War II* (Wood and Wiskoff, 1992), reported analyses and trends from cases that were then included in the database between 1945 and 1991. In the decade

since that report was published, additional cases of espionage have occurred and have been entered in the database. For this updated report we have redefined the time frame to span the years 1947 to 2001, excluding cases from World War II and immediately thereafter, in order to sharpen the focus on the Cold War and its aftermath. Various events can be identified as the start of the Cold War, but we chose a starting date of 1947, with the conjunction in 1947 of three crucial elements of American policy: the Truman Doctrine, the Marshall Plan, and the National Security Act. This date allowed us to include several espionage cases by Americans from the later 1940s that were more like those in the 1950s than like earlier wartime cases. We have also developed additional variables that capture a wider range of data. These changes, and the additions to the espionage database and case files, have all prompted the need for an updated, expanded revision of the 1991 report based on the latest data.

Review of Other Research on Espionage

There has been no shortage of journalistic and biographical writing about individual or groups of American spies and their personal stories (e.g., Adams, 1995; Barker, 1996; Barron, 1987; Blitzer, 1989; Blum, 1987; Costello, 1988; Earley, 1988, 1997; Headley & Hoffman, 1989; Henderson, 1988; Kessler, 1990; Kneece, 1986; Lindsey, 1979; Maas, 1995; Nizer, 1973; Radosh & Milton, 1983; Tanenhaus, 1997; Weiner, Johnston, & Lewis, 1995; Wise, 1988, 1995). Some cases have attracted widespread media attention; others that may have been equally damaging have not.

Numerous books have attempted to paint broad-brush pictures of the development of espionage in recent history. Some of these focused on particular periods, or emphasized the implications of revelations in 1995 of the closely-held secret *Venona* project (e.g., Adams, 1995; Albright & Kunstel, 1997; Allen & Polmar, 1988; Andrew & Gordievsky, 1991; Andrew & Mitrokhin, 1999; Corson, Trento, & Trento, 1989; De Gramont, 1962; Haynes & Klehr, 1999; Kessler, 1988; Knightley, 1986; Lamphere & Shachtman, 1986; Morse, 1995; Palmer, 1977; Pincher, 1988; Seth, 1961; Weinstein & Vassiliev, 1999; West, 1964; West & Tsarev, 1999). While these works provided biographical detail, historical context, and illustrations of espionage, they did not attempt to summarize information or to generalize across cases.

Another common category of writing on espionage is the compilation of case histories or brief summaries of cases into a collection (e.g., *Recent Espionage Cases*, 1999; Dobson & Payne, 1984; Federal Bureau of Investigation, 1987; Maldon Institute, 1986; Nash, 1997; Naval Investigative Service Command, n.d.; O'Toole, 1988; Polmar & Allen, 1997; Rafalko, n.d.). These useful compilations described each case, implicitly inviting the reader to compare them, but made little effort to organize the material within a framework or to compare and contrast them with each other. Although there is much to learn from the life and actions of the individual spy, it is important to supplement case histories by aggregating information across cases, where patterns and trends among cases may emerge.

Among unclassified sources, we found five previous attempts in the literature on espionage to perform simple statistical analysis across cases, not including the 1992 version of the present report. Three of the five sources appeared in 1988, three years after the exposure of

the Walker spy ring touched off a flurry of attempts to explain espionage, including initial work on this database.

The first study, *The Espionage Threat*, produced by the Defense Intelligence Agency (Jepson, 1988), looked at 54 cases involving persons affiliated with the Department of Defense who were convicted of espionage, conspiracy to commit espionage, or of related unauthorized possession or passage of classified information. The cases dated from 1945 to December 1987. Jepson developed a chart comparing the individuals in his cohort on variables including: duty assignment, age, education, marital status, years of federal service, dates of espionage, foreign intelligence agencies involved, motivation, whether the person volunteered or was recruited, area of operation, payments, methods of operation, how the person was discovered, materials compromised, and penalty. He provided tables of frequencies for nine of his variables. Jepson found that 63% of the spies in his study committed espionage for money; all the individuals in his study were male; half had high school diplomas and one-fourth held college degrees; half were married; one-third of his subjects began spying before the age of 26; and 30% had close ties to other countries, such as a foreign spouse. The relatively small number of cases he considered limited this otherwise suggestive study, and not all of the cases he included matched our definition of espionage. His case studies did offer useful biographical data on the individuals and demonstrated the promise of doing further analysis across cases.

The U.S. Air Force Office of Special Investigations published a report entitled *Volunteers* (Crawford, 1988) that focused on Air Force cases. It abstracted the lives and espionage careers of 23 Air Force personnel who spied or attempted to spy between 1947 and 1988. The author tried to determine if there were common characteristics that could be used by counterintelligence personnel to identify and neutralize espionage agents. In addition to the case histories, eight variables were presented as tables: age when espionage began, years of federal service, foreign influence, career fields, education, motivation, recruitment method, and amount of money received for espionage. Crawford concluded that there were no absolute characteristics that could be used to profile potential spies. He suggested that many individuals apparently resorted to espionage simply because the opportunity presented itself, not because they were much different than other Air Force personnel. Like Jepson's report for DIA, this study provided excellent information on the cases it discussed. One limitation was the fact that it dealt only with Air Force personnel.

The third work that attempted simple cross-case analysis was Sandia's report, *Profile of Espionage Penetration*, for the Department of Energy (Brown, 1988). This study reviewed 111 cases of espionage against the United States or its allies between 1950 and 1987. Of these, 92 were cases of American citizens prosecuted for espionage. Like Crawford, Brown sought to determine a profile of the potential spy that could be useful for counterintelligence. The study examined several variables, paying detailed attention to motivation. Motivations were grouped into the following categories: revenge, greed, sense of adventure (ego), divided loyalties, national pride, emotional or romantic involvement, disloyalty, entrapment and fear (blackmail, coercion). The study found a 70% rate of volunteering for espionage and the following

commonalities among cases: spies appeared to be more intelligent than average; they usually committed espionage for money; they were frequently obsessed with espionage matters and often involved with intelligence professions; and they often displayed serious character flaws. Among military spies, young people who turned to espionage often entered the service with problems, found they could not satisfy their material needs on low pay, might be assigned to geographical regions where they were vulnerable to recruitment, and had access to classified materials. For our purposes, the study was limited because few actual data were presented to substantiate the findings.

Fourthly, a 1997 journal article by Stan A. Taylor and Daniel Snow entitled "Cold War Spies: Why They Spied and How They Got Caught," briefly described an excellent study of 139 cases from 1935 through 1996 (*Intelligence and National Security*, 12(2) April 1997). Taylor and Snow collected information from unclassified sources on 40 variables for their 139 cases. In this article they discussed only two aspects of their findings: motivations for espionage, and how spies were caught. Citing examples from cases, they suggested that money, divided loyalties, disgruntlement, and ingratiation were the four main motives for espionage, but that fantasy, ego, and kinship have been important as well in some cases. In their discussion of shifts in government policies, laws, and methods of counterintelligence, Taylor and Snow provided an especially useful overview of developments since 1978, when the passage of the Foreign Intelligence Surveillance Act changed the counterintelligence ground rules. The authors noted that this legislation put new teeth into counterintelligence, resulting in more arrests and more convictions for espionage, and hence, more cases. In an appendix table they listed their cases by name and gave information on seven of their variables: motivation, dates began and ended espionage, duration, whether civilian or military, employer, and rank.

Finally, investigators in an interagency research project named Project SLAMMER conducted interviews with convicted spies to collect information on personal characteristics of espionage offenders. Between 1983 and 1998 interviewers spoke with convicted spies, often in prison, and with some of their friends, co-workers, and family members. They also administered psychological tests to many of the interviewees. Using a lengthy interview protocol, researchers asked questions meant to increase knowledge about personality factors common among spies and situational factors that may have influenced them. Unfortunately, design flaws and procedural inconsistencies devalued the results of this effort. These flaws included posing different types and numbers of questions to subjects, inconsistent interview conditions between subjects, and lack of rigorous definitions of terms; hence the project has been suspended. (Zuravin, 1998)

This brief survey of the literature demonstrated that although there were various unclassified studies presenting information on espionage and the spy population, each was incomplete in some way and limited by its focus or its methodology. An unclassified database that included as many cases of espionage by American citizens on which information is available, and that excluded espionage by non-Americans, would improve the applicability of the research on espionage by Americans. Compilation of this database allowed us to do the following analyses and helped generate questions for further research. We believe such analyses contribute to a more comprehensive picture of espionage.

Background

The Practice of Soviet Espionage in the United States

Espionage has been one of the defining interactions between the United States and the USSR since the Soviet Union emerged from the Russian revolution in 1917. From Czarist Russia the Bolsheviks inherited a long, well-developed tradition of espionage against internal as well as external enemies. Operatives arrived in the United States seeking information soon after the Bolshevik revolution of 1917. Typically, they focused on infiltrating émigré groups to protect the fledgling Soviet state from counterrevolution, but they also sought economic and industrial data about America, and they laid a groundwork of committed agents on which to develop sources within the federal government. Once the United States recognized the USSR in 1934, the Soviets used their new diplomatic cover to facilitate collecting intelligence and making contacts with Americans. Starting in 1935, several groups of well-placed Americans gradually drifted into service as Soviet agents. Harold Ware, Alger Hiss, Morris Cohen, and Whittaker Chambers, among others, began their careers as spies for the Soviets in the mid-to-late 1930s. Most of these secretly joined or at least had connections to the American Communist Party, in whose study groups they moved from debating Marxism to passing along information in active support of the international Communist movement (Haynes and Klehr, 1999).

These American agents often acted from idealistic calculations about a world order so drastically changed by subsequent events that now it is difficult to recapture that vanished time. The severe worldwide depression of the 1930s and the rise of militant fascism in Europe shook the complacency of many about capitalism's merits, and led progressive-minded Americans to take a friendly interest in the Soviet "experiment." As a result, membership in the American Communist Party grew seven-fold during the Great Depression. Before Stalin's paranoia, purges, and murderous campaigns against the Russian people were documented in the West, before Communist theories were publicly discredited by decades of failure and opportunism, it was possible for idealistic Americans in the grip of "romantic anti-fascism" to see the USSR as the world's best remaining hope (Isserman, 2000).

The entry of the United States into the war at the end of 1941 marked the end of the first small-scale phase of espionage by the Soviets in this country, and the development of expanded and centralized professional agent networks. The Soviet Union became the United States' ally in the European theatre, and American perceptions of the Communist state made an abrupt if temporary about-face. From disapproval, Americans now found themselves urged to admire the stalwart Russian people and the heroic Red Army that was holding Hitler on the Eastern Front. Wartime cooperation between these uneasy allies allowed Soviet intelligence to dig into the burgeoning bureaucracy in Washington, where its recruits swelled from dozens in the late 1930s to several hundred during the war. According to transcripts of Soviet wartime cables deciphered by the National Security Agency (NSA) in the *Venona* project, codenames of some 350 cooperating Americans appear in Soviet wartime cable traffic. The finest hour for Soviet intelligence gathering during the war came with the penetration of the secret Manhattan project by the atom spy ring, Julius and Ethel Rosenberg, Klaus Fuchs, and their associates (Weinstein and Vassilev, 1999; Haynes and Klehr, 1999).

As quickly as Soviet espionage in the United States expanded during the war years, almost as quickly it began to shrink, starting in 1945 with the defection to the FBI of Elizabeth Bentley and her offer to name names. Her revelations were followed by the defection of Igor Sergeievitch Gouzenko, a cipher clerk in the Soviet Embassy in Ottawa. He defected to the Canadians in September 1945 with Soviet cipher codes that, when shared with Washington, allowed the NSA to make real progress deciphering their large collection of intercepted Soviet cables accumulated during the war years. NSA decoded and deciphered parts of the *Venona* intercepts from 1946 through the 1970s, although the project remained secret until 1995 (Benson & Warner, 1996). Evidence in these intercepts led to the arrest of Fuchs in Britain and, from there, to the apprehension of the Rosenbergs and their accomplices. The conviction of Harry Gold in 1950, the Rosenberg and Sobell trials in 1951, the perjury convictions of Alger Hiss and William Remington, and the two trials of Judith Coplon fueled Senator Joseph McCarthy's claim that spies riddled the American government. His campaign to root out all Communist sympathizers in and out of government, cynical though it was, focused national attention in the early 1950s on the issue of loyalty and the possibility of betrayal by one's fellow-citizens. One result was Executive Order 10450, "Security Requirements for Government Employees," issued by President Eisenhower in 1953, which outlined the federal personnel security policies that remain the basic mandate for personnel security into the present.

The Shifting Policy on Prosecution of Espionage

In the period between 1950 and 1977, newspapers described a few cases of espionage by Americans every year or two. Then suddenly in the late 1970s, the incidence of espionage convictions made public increased noticeably, and during the 1980s the pace of reported espionage prosecutions exploded into what one observer termed an "espionage *plague*." Suddenly, it seemed lots of Americans were willing to spy for the Soviets. Several factors shaped this perception and the more complicated reality behind it. There is a certain baseline of espionage going on that authorities recognize, but for which too little evidence is available to meet the standards demanded to prosecute. The effectiveness of counterintelligence measures has varied over time, and they have steadily improved. The perception of a plague also reflected a political decision taken in the late 1970s to make spying known by prosecuting espionage.

Prosecution of espionage has been reluctant in some periods; in others it has been diligent. Decisions to prosecute depended on an evaluation of the risks and benefits in doing so: the potential risk from discussing secrets in open court versus the potential benefit from publicly punishing this type of crime. Shifting prosecution policy on espionage is the main factor, though not the only factor, in the apparent peaks and valleys of spying by Americans over time, and it obscures the actual incidence of such espionage. It is important to understand that these policy shifts worked behind the headlines to shape the public impression that there has been a rising tide of espionage over time that peaked in the 1980s. This background also reminds us that it has been incidents of espionage that have usually prompted the milestone changes in federal laws and policies aimed at countering this crime.

The slow, hard-won decoding and interpretation of the *Venona* transcripts in the 1950s confirmed to federal authorities that indeed many Americans had participated in the Soviet espionage offensive during the war years of the mid-1940s. Many of those spies were identified. Some were prosecuted, some cooperated in exchange for light sentences, others fled overseas, and others were able to stonewall the FBI and get off. Only a handful of American citizens were convicted of espionage during the 1950s because during that period the federal government often chose to "ease out" or "neutralize" wartime spies and new cases rather than to prosecute them.

An important example of how stonewalling about wartime espionage was possible in the early 1950s was the case of William Weisband, who had spied for the Soviets throughout the 1940s and had used his position as an Army officer at NSA to gather information about communications secrets for the Soviets.¹ It was Weisband who revealed the existence of the *Venona* project to the Soviets in 1946, thereby warning them that NSA could read some of their cable traffic.

The FBI eventually identified Weisband in 1953 (in an ironic turnabout, he was identified through the *Venona* intercepts, the program he had betrayed), but he refused to admit his guilt. Since the very existence of the *Venona* intercepts remained highly classified and the cables could not be referenced as the source that had led to Weisband's identification, without evidence that they were willing to discuss in open court, prosecutors backed off. Weisband spent only a year in jail for contempt of court, effectively getting away with long-term, very damaging espionage (Haynes & Klehr, 1999; Dobbs, 1996b; Briscoe, 2000).

Another of the wartime figures who volunteered to spy for the Soviets and who later escaped prosecution during the early Cold War was a young Harvard physicist named Theodore Hall. The American public learned of his espionage only in 1996 from *Venona* materials released by NSA. In 1943, Hall had passed atom bomb secrets to the Soviets to prevent an atomic monopoly for the United States, which he feared would lead to destabilizing hegemony. The FBI investigated him in the early 1950s but, uncertain of their evidence and unwilling to reveal *Venona*, they declined to prosecute. Hall left the country and lived out the rest of a long, comfortable life in Cambridge, England (Albright and Kunstel, 1997; Dobbs, 1996a).

These investigations of wartime espionage bridged the period between the end of the world war and the beginning of nuclear competition during the early years of the Cold War. In this study we did not include atom bomb spies such as the Rosenbergs, or Weisband and Hall in order to focus on the issues of bi-polar competition defined by the Cold War, but there was no sharp break dividing these periods. In the 1950s the FBI was busy finishing up wartime spy cases while at the same time it was responding to new, Cold War cases.

Most of the cases prosecuted between 1950 and 1965 involved military men and military settings: 10 were serving members of the military and four others were civilians who worked for one of the military services overseas. Only five of the 22 individuals in this 15-year period were

¹ Weisband is not included in the espionage database because his espionage focused on the war and post-war years.

civilians from intelligence agencies: Irvin Scarbeck, who worked for the State Department, and four individuals from NSA, Joseph Petersen, Bernon Mitchell, William Martin, and Victor Hamilton, a disgruntled former employee (Rafalko, n.d.[Scarbeck]; Polmar & Allen, 1997 [Petersen]; Bamford, 1982 [Martin and Mitchell]; Hiatt, 1992 [Hamilton]).

These findings reflect the impact of two factors: During this period the KGB concentrated its recruiting of spies on Department of Defense personnel stationed overseas; and in 1954 the CIA and the Justice Department signed a secret agreement that allowed the CIA alone to decide, should one of its agents be accused of a crime, including espionage, whether or not to refer the agent to the Justice Department for investigation. The CIA's decision to refer depended on whether in their judgment publicity about the matter would damage national security (Bell, 1982). Not surprisingly, few cases of espionage by intelligence agents surfaced under this policy.

Between 1966 and 1975, our database records that 11 cases of espionage by Americans were prosecuted. Continuing the earlier military focus into this period of espionage, 9 of them came before military courts. According to materials in Volume 3 of the useful three-volume compilation of documents and case summaries edited by Frank J. Rafalko, the intelligence contest during this period of Cold War with the Soviets revolved in part around the hot war in Vietnam. Along with the military conflict and eventual defeat of American forces in South Vietnam, it was a time of domestic protest and turmoil in the United States over the war. Two administrations, under Presidents Johnson and Nixon, encouraged the FBI to undertake domestic surveillance and disruptive activities against anti-war and civil rights groups, and these activities took resources away from FBI counterintelligence, leaving fewer agents and less time to investigate spies. The CIA also strayed into controversial areas in a program that traced possible foreign influences on domestic groups that opposed government policies. These domestic programs distracted attention from the ongoing Soviet intelligence gathering (Rafalko, n.d.).

The Justice Department during these years agreed with the position taken by the intelligence agencies: that prosecuting spies did more harm than good because it was likely to invite retaliation against American agents abroad; it ruined intelligence agents as assets for future use; and it revealed to our adversaries what we knew and did not know (Bell, 1982). The preferred approach was to identify and quietly neutralize spies in order to control the loss of secrets and to avoid the admission of failure that a spy represents (Tyler, 1985).

Three of the 11 cases of American espionage from this period (1966 through 1975) reflect this approach: in two Air Force cases individuals received immunity from prosecution for their cooperation. A third spy, Norman Rees, agreed to become a double agent for the FBI after the bureau uncovered his unusually long career, which ran from 1942 to 1971, as an industrial spy for the Soviets. Warned in 1975 that the press was about to print stories revealing his identity as a spy, Rees committed suicide. How many other cases were handled in ways that were not reported in open sources we do not know (Blau, 1976).

The secret agreement between the CIA and the Justice Department on prosecution of espionage by CIA employees, which was renewed in 1960 and again in 1964, was still in effect in 1975, when the Rockefeller Commission stumbled onto its existence while investigating the intelligence agencies. In February 1976, President Ford ended the secret agreement by executive order, and in effect this opened up the first real possibility of prosecuting intelligence agency employees for their crimes, including espionage (Bell, 1982; Allen and Polmar, 1988).

A confluence of espionage cases in the mid-1970s and shifts of administration between the Nixon, Ford, and Carter presidencies markedly changed the federal policy on prosecuting espionage. Early in 1977 the Carter administration, prodded by Attorney General Griffin Bell, took a new position on espionage prosecution. In 1975 and 1976 Congress had scrutinized the intelligence agencies and the FBI in a series of investigations into illegal surveillance and harassment of American citizens, and new regulations had been enacted that tightened up on the abuses they found. Wire-tapping without a court order was a main focus of complaint, raising questions about a citizen's rights, under the Fourth Amendment to the U.S. Constitution, as opposed to the nation's interests in protecting its secrets. Reflecting the skepticism of the times about some of the intelligence community's positions that seemed self-serving, Bell questioned the typical disinclination to prosecute spies. In a later interview he explained that "...the intelligence community had come to believe that every time you prosecuted a spy you would lose the secret, and that it was better public policy—the best of two evils—to let the spy go and keep the secret. But I had the idea that you could prosecute these cases without losing the secret (quoted in Tyler, 1985, p. 4)."

The only American espionage case to surface from the Vietnam conflict gave Bell a chance to test whether he could prosecute espionage without "losing the secret." Ronald Humphrey, employed at the U.S. Information Agency, was arrested early in 1978 after an investigation of his friend, David Truong, a politically well-connected immigrant from Vietnam, determined he had classified State Department cables in his apartment. Using a courier, Truong had been sending secret information he got from Humphrey to the North Vietnamese delegation at the Paris peace talks. The investigation of Humphrey broke new ground when the FBI installed its first hidden television bug in his workplace to watch him removing documents (Bell, 1982).

When confronted, Humphrey claimed he had supplied this information hoping to influence Vietnamese officials to release his common-law wife and her four children from communist Vietnam (McAllister, 1978; Dickey & Seaberry, 1978). The CIA opposed prosecuting Truong and Humphrey for espionage because, unknown to Truong, the courier he had been employing was a double agent for the CIA. If she testified in open court, the agency would lose her valuable insider information about the Vietnamese government. Nevertheless, the Justice Department did prosecute Humphrey and Truong for espionage, the courier did testify, and Humphrey and Truong each received a 15-year prison sentence (Bell, 1982).

Another turning point during 1977 and 1978, a period when conflicting interests over espionage prosecution coalesced, was the case of William Kampiles. Neither the CIA nor the Department of Defense wanted Kampiles prosecuted, and the fight over this issue shaped the approach that was emerging toward spy prosecutions.²

Kampiles was 23 years old and worked at the CIA as a trainee from March to November, 1977. In his job as a watch officer, he routed intelligence reports around the world. Kampiles resigned in disappointment after he received a poor evaluation that dimmed his chance to become a field agent; he took a Top Secret manual for the KH-11 reconnaissance satellite from his shelf on his way out the door. This satellite represented the most sophisticated American surveillance technology then in operation. Kampiles sold the manual to a Soviet military attaché in Greece for a mere \$3,000, and then he wrote to the CIA portraying his actions as a double agent ploy. Eventually he confessed to selling the manual from spite. Kampiles' trial did little for the agency's public image, since it revealed laxness in handling of classified materials. A search showed that Kampiles' pilfered copy was only one of 13 manuals for the KH-11 missing at the agency (Sheppard, Jr., 1978; Associated Press, 1978).

The Defense Department argued against even admitting the existence of the KH-11 satellite in open court, much less introducing the manual itself as evidence. Several of the procedures first worked out during the Kampiles trial, including limited viewing of secret evidence by only the judge, the attorneys, and the jury, and closed hearings on specific sensitive issues, would be incorporated into new legislation on espionage prosecution (Bell, 1982.)

Congress adopted two new laws in an effort to balance the conflicting but legitimate interests of both intelligence gathering and law enforcement. First, it passed the Foreign Intelligence Surveillance Act (FISA) in 1978. FISA established a secret court of seven U.S. District Court judges who meet monthly to hear Justice Department applications for various types of surveillance (among them telephone wiretaps, television surveillance, vehicle tracking transmitters, and radio transmission interceptions) for gathering foreign intelligence that may or may not find espionage by U.S. citizens. Under usual procedures for investigating and prosecuting criminals, these methods of surveillance would be deemed unconstitutional searches or seizures, so FISA required the Attorney General to certify that the "primary purpose" of the proposed wiretap was to listen in on a foreign spy or terrorist—counterintelligence, not criminal prosecution. This line is a fine one, since a successful counterintelligence operation might result in a criminal trial for espionage. Each year since its enactment more applications have been submitted to the FISA court; from 319 requests in 1980 the number has climbed to 1012 in 2000 (Tyler, 1985; Federation of American Scientists, 2001). So far the FISA court has approved all but one application.³

² Bell dealt with several other important espionage cases early in his career as Attorney General, including Edwin Moore in December 1976 (Moore had been a CIA employee), and defense contractor employee Christopher Boyce and his accomplice Andrew Daulton Lee in 1978.

³ Recent legislation passed as the U.S.A Patriot Act, December 2001, in response to the campaign against terrorism, shifts many of the responsibilities between agencies and blurs distinctions between the FBI, the CIA, and the Department of Justice that were set up under FISA. See Jim McGee, "An Intelligence Giant in the Making," *The Washington Post* (November 4, 2001), p. A04.

FISA procedures have noticeably strengthened counterespionage tools and therefore they have contributed to more arrests and convictions. Later amendments to the law have added physical entry and searches to the procedures covered by the special FISA jurisdiction. Starting in the late 1970s, the exposure of secrets in the course of investigating their potential compromise during preparation of a prosecution has been limited to the seven FISA judges (who are given rigorous background investigations), and a selected set of Justice Department attorneys who handle such cases. The assurance that secrets will be protected has encouraged agencies to pursue and prosecute spies (General Accounting Office, 2001).⁴

A second law, the Classified Information Procedures Act (CIPA) of 1980, extended this protection of secrets from the development of a prosecution into the courtroom itself. CIPA institutionalized procedures first used during the 1977 espionage trial of Christopher Boyce. Boyce and his childhood friend, Andrew Daulton Lee, sold classified information to the Soviets. Boyce stole documents from a secure vault where he worked as a defense contractor employee for TRW; Lee flew to Mexico City and sold them. Boyce's attorney made veiled threats (these kind of threats came to be called "greymail") to reveal the content of the classified information in open court as a ploy to get a plea bargain (Lindsey, 1977a; Lindsey, 1977b). In response, the trial judge held closed hearings to review the materials himself, and decided these particular documents were irrelevant to the defense case. CIPA allows this type of private evidentiary hearings, and it also permits a judge to protect the content of classified materials by introducing summaries of the materials instead of the full texts (Serrill, 1984).

These laws, and the reversal in attitude on the part of the government to prosecute rather than to neutralize spies, made possible the torrent of espionage prosecutions that swept through the 1980s. More counterespionage agents were hired who could take advantage of the new laws: the Reagan administration claimed that between 1981 and 1985 personnel devoted to counterespionage had doubled (Morganthau, et al., 1985). Technological means of surveillance improved steadily in these years as well, adding to the ability of agents to successfully track and monitor suspects during investigations.

Sixty-two Americans were arrested for espionage-related crimes during the 1980s, ranging from David Barnett, a CIA agent, in August 1980 to Zoltan Szabo and Thomas Mortati, the mastermind and a minor accomplice in the Conrad ring, in May and December of 1989 (Taubman, 1980 [Barnett]; Herrington, 1999 [Szabo and Mortati]). The public outcry over the increased numbers of spy cases in the mid-1980s has since led to repeated investigations and efforts to improve the security of classified information and the procedures for granting security clearances, and to reduce the number of people with access: the number of security clearances granted in the Department of Defense dropped from 4.3 million in 1985 to 2.1 million in 2000 (Department of Defense, 2001). Under the FISA and CIPA procedures, espionage prosecutions

⁴ However, a pattern of difficulties in coordinating FBI investigations of possible espionage with DOJ prosecutions of espionage has apparently developed since 1978 when FISA was enacted. The Wen Ho Lee investigation prompted a thorough investigation of this issue; the report is scathing about the "dysfunctional" relations between the DOJ Criminal Division and the FBI. See George Lardner, Jr., "Report Criticizes Stumbling Block Between FBI Espionage Prosecutors," *The Washington Post* (December 13, 2001), p A03.

have continued aggressively during and after the 1990s, netting some of the most serious cases in the history of espionage by Americans, including Aldrich Ames in 1994, Earl Pitts in 1997, and Robert Hanssen in 2001.

Methodology

Sources

We used newspaper and magazine accounts, biographies, general published works on espionage, and collections of case histories compiled by other researchers. We consulted on-line research tools such as Lexis-Nexis, on-line database search engines, and the Federal Research Division of the Library of Congress for additional leads on information about the more obscure cases. We checked for certain missing information in the classified investigative files of several federal agencies, but we maintained only unclassified information in the database.

Criteria for What Constitutes Espionage in This Study

The target population in this study was American citizens involved in espionage between roughly 1947 and 2001 on which unclassified, public sources of information were available. The database was first designed to investigate espionage starting from the end of World War II. Recently, in light of the many cases revealed in the *Venona* project, we moved cases in which espionage began before or during the war into a separate database, and we now include here only a few cases that began in the 1940s, either because they resembled the early Cold War cases or, in the case of Norman Rees, because uniquely he spied for the Soviets from the 1940s into the early 1970s. However, "involved in espionage" is not a straightforward matter. To commit espionage, one must take several steps: procure National Defense Information (NDI) (NDI is defined in the espionage statute in United States Code Title 18, starting in section 793), which is usually but not necessarily classified, either by stealing it oneself or by prevailing on an accomplice with access to steal it; then make contact with a recipient of the information; and lastly, transfer the information to the recipient.

Included in the database are not only instances of espionage convictions, but also cases of attempted and intended espionage—in which the person was caught before completing all the steps—that would not result in conviction for espionage. Individuals in these cases were sometimes indicted for lesser crimes, or if they were indicted for espionage, the indictment may have been plea-bargained down to lesser charges in exchange for information, or from lack of evidence, or to protect counterintelligence methods. Lesser charges typically include conspiracy to communicate national defense information to a foreign government, or acting as an agent of a foreign government, or theft of government property, or conspiracy to gather information knowing it would be useful to a foreign government, or even simple mishandling of classified documents.

Therefore, the research strategy here was not to start from the consequences of the crime, looking for anyone convicted of espionage, but instead from the charges, the investigation, and the evidence of intention, and to make judgments on whether the person was trying to convey information to the detriment of his or her country, or was simply careless with security.

Some cases that are listed in other espionage studies did not demonstrate intent or attempt to commit espionage, so we excluded them from our database. For example, individuals found with classified documents who were convicted of security violations, but for whom there was no evidence of attempted or intended espionage, were excluded. Admittedly, after the fact it is difficult to be certain what individuals intended, and they may not even know themselves.

The initial report in 1992 was based on a database that then included 117 individuals. We added 33 cases that were either more recent or for which data previously had been unavailable. There are currently 150 individuals in PERSEREC's espionage database. Appendix A lists their names, when they began spying, their dates of arrest, organizational affiliation, intended or actual recipient of their information, and whether they were volunteers or recruits.

Three of the original operative criteria for inclusion in the database were also followed in this later version. They are:

1. Individuals convicted of espionage or conspiracy to commit espionage, or for attempting espionage, or for admitting that they intended to commit espionage (114 individuals),
2. Individuals prosecuted for espionage but who committed suicide before the trial or sentencing could be completed (4 individuals),
3. Individuals for whom clear evidence of espionage (actual or attempted) existed, even though they were not prosecuted. This category included cases involving defections, deaths at early stages in an investigation, and those administratively processed (e.g., allowed to retire, given immunity, discharged from the military) (14 individuals).

For this updated report we included a fourth criterion in the research that reflects the fact of plea-bargaining to lesser charges by defendants:

4. Clear evidence of actual or attempted espionage, indicted under espionage charges, but prosecuted for an offense other than espionage (18 individuals).

The 150 cases include individuals with and without security clearances, unemployed as well as employed people, and native born as well as naturalized citizens of the United States. They include people in government service, military officers and enlisted personnel, civilian contractors, and others working in a variety of jobs unrelated to the government. Data are current as of September 2001. Two individuals, Brian P. Regan and Ana Belen Montes, who have been arrested recently but were not yet sentenced at this writing, are not included in the database analyses, but based on our files we refer to them in the text. As new cases of espionage emerge, they will be added to the database.

Selection and Coding of Variables in the Database

Five categories of information were gathered: biographical, employment and security clearance, the act of espionage, motivation, and consequences. Within these categories, we selected variables that would be available from open sources and would provide a rich array of background data on spies. Included were personal and demographic information, aspects of the individual's job environment, their access to classified information, how they first got involved with espionage, how their careers as spies evolved, and how those careers ended. Information was collected on whether they volunteered or were recruited and by whom; on their motivations for committing espionage; and details on their indictment, conviction, and sentence. Some variables were included for identification and documentary purposes only and were not used for analysis. Some were qualifying descriptors for other variables, e.g., *foreign relative qualifier* provides details about the previous variable, *foreign relative*, which is just coded Yes, No or Unknown.

Variables added to the database since the 1992 report provided us with more detail on personal and employment histories. The new variables include information on antisocial behaviors, criminal histories, life-changing personal events, security clearance details, financial irresponsibility, unexplained affluence, and foreign relatives. By collecting information on these variables where it is available, we hope to better document two factors: observable behaviors that violated suitability standards for security clearances; and life events, or "triggers," that could make someone vulnerable to recruitment or desperate enough to undertake espionage.

For most of the variables, data are available for all or many of the 150 spies. However, for some of these recent variables dealing with suitability and personal vulnerabilities, public sources yield less complete data. Variables for which some data are missing due to the difficulty of obtaining information from open source literature, and for which confidence in their applicability across cases therefore should be somewhat lower, include: immoderate alcohol or illegal drug use, loyalty indicators, life status changes, antisocial behaviors, deception on clearance applications, unexplained affluence, foreign relatives, sexual preference, and payment received.

Variables that are subject to change over time were coded according to their status at the time when espionage began. For example, *marital status* was coded according to whether the individual was married, separated, divorced, or single when they started spying. Likewise, we coded *job organization* according to the organization for which the individual worked when he or she first got into espionage, and included a modifier field to track subsequent employment history.

The following coding procedures were used when data shaded into uncertainty. Individuals were only coded as being immoderate users of alcohol or users of illegal drugs if we had definitive information from open sources; likewise, we coded them as having foreign relatives only on definitive information, not inferences. It is possible that there were more spies who would have been placed into those categories but for whom data were missing.

On the variable *sexual preference*, we coded individuals as heterosexual if they were married, divorced or separated, or if they were single and there was evidence they were interested in heterosexual relationships. They were coded as "unknown" if they were single and there was no indication of either heterosexual or homosexual relationships, or in cases where homosexuality was merely alleged. Thus in 34 cases sexual preference was coded as Unknown.

For the variable *payment received*, it is extremely difficult, if not impossible, to know precisely how much a spy was paid. In many cases the amounts reported in open sources only reflect the U.S. government's best guess as to the amount received based largely on what could be proved in a court of law. The period of time covered by this report is 50 years, and the value of the dollar has changed radically during that period. While it would have been technically possible to convert all amounts spies are said to have received over the past 50 years into current dollar values, this would only compound the initial inaccuracy of the best guesses. Accordingly, monies supposedly received are reported in the original dollar amounts and then analyzed in broad groupings.

Analytical Approach in This Study

We contend that based on what we know from available data, there is no "typical spy," and therefore there is no set of characteristics that could be used to "profile" a spy. This study does not try to produce a profile. Instead, the data presented in this study should lead to a better understanding of espionage. Espionage is a rare crime, and the most appropriate analytical approach to it is to use simple descriptive statistics, i.e., frequencies of single variables and cross tabulations of several variables.

In the analyses for this study, frequencies were first calculated on data for the basic characteristics of espionage within the categories of personal attributes. Then the variables were explored in terms of these issues:

- Whether individuals who were intercepted before they passed information differed from those who did pass information. For those who were not intercepted and who thus did complete an act of espionage, the length of an espionage career was coded into three categories: espionage lasted less than 1 year, espionage lasted 1-4.9 years, or espionage lasted for 5 years or more. People who completed an act of espionage were dubbed "successful" spies, only in the sense that they did succeed in passing information.
- Whether uniformed military differed from civilian spies.
- Whether individuals differed by how they came into espionage. This was coded into three categories: volunteers, those recruited by family or friends, and those recruited by a foreign intelligence service.
- Whether American spies have differed over time in terms of the motivations that led them to commit espionage.

- Whether American spies who committed espionage alone differed from those who worked with a partner or from those who worked as part of a group.
- Whether American female spies were distinctive.

Thus the following Results and Discussion section reports results of our database analyses, supplemented with research and illustrations from our files, in a series of sections. In the first section, we present an overview of basic characteristics such as personal attributes, employment and clearance status, qualities of the act of espionage, and consequences these individuals suffered. In the second section we compare cases by the length of their espionage. The third section compares military offenders with civilians. The fourth section compares cases by whether people volunteered or were recruited, and if they were recruited, whether by a foreign intelligence service or by family or friends. In the fifth section we compare motivations for espionage in the various time periods and how prevalence of various motives have changed over time. In the sixth section we compare lone spies with those who worked with partners or in groups. In the seventh section we consider characteristics of the American female spies.

In the final sections of the Results and Discussion, we apply some of our findings on espionage to various aspects of the personnel security system, including the criteria for personnel security that are expressed in the federal *Adjudicative Guidelines*; patterns we find in espionage that could be used to improve the security clearance system; and security awareness issues in relation to our findings, including co-worker reporting and position vulnerability assessment. The last sections offer trends in the number of Americans spying over the last half-century and trends in the recipients for whom they worked.

Results and Discussion

In these analyses, we first report results in tables. The text accompanying the tables draws attention to highlights of the results, rather than describing all of the results. Discussion is integrated into each section, and includes implications, examples of illustrative cases, and other considerations. Examples and illustrations are drawn from the available information in PERSEREC's files on individuals in the database. For a listing of the names of cases included, see Appendix A.

Overview of Basic Characteristics of American Espionage Offenders

This section presents data on basic characteristics of the 150 cases in the database. Table 1 reports some of the personal attributes. Percentages in this and in all the subsequent tables are based on the number of known cases for each variable.

Table 1
Personal Attributes

Characteristics	<i>n</i>	%
Gender (n=150)		
Male	139	93
Female	11	7
Race/Ethnicity (n=141)		
White	118	84
Black	9	6
Hispanic	7	5
Others	7	5
Age when espionage began (n=147)		
Less than 20	9	6
20 to 29	59	40
30 to 39	40	27
40 or more	39	27
Education, in years (n=133)		
10 years	9	7
12 years	52	39
14 years	26	20
16 years	27	20
18 years	19	14
Marital status when espionage began (n=140)		
Married	80	57
Single	46	33
Separated or divorced	14	10
Sexual preference (n=116)		
Heterosexual	110	95
Homosexual	6	5
Citizenship (n=148)		
Born in U.S.	122	83
Naturalized	26	17
Had foreign attachments (n=150)		
Yes	66	44
No or unknown	84	56

As Table 1 shows, most American spies have been men; only 7% were women. Most were white, 84%, and almost half were young, 29 years old or less. Seen as a whole, espionage by Americans has been a young white man's crime. Of those for whom we know the level of their education, almost half had only a high school education or less, but one-fifth had earned

bachelor's degrees and 13% held graduate degrees. More than half were married when they began espionage, and the group was overwhelmingly heterosexual; 95% of the 116 cases for which sexual preference can be documented were heterosexual. (Table 14 presents patterns in the espionage of women spies.)

All the individuals in the database were American citizens, since this was one of the criteria for inclusion: 83% were native born, while 17% were naturalized citizens. This represents four times the proportion of naturalized citizens in the U.S. population as a whole, in which, according the 2000 decennial census, naturalized citizens were 3.8% of the population (U.S. Census Bureau, 2000). Given this higher proportion of naturalized foreign-born citizens in the espionage database, it is not surprising that 44% of the group as a whole had what we have called "foreign attachments." These attachments included close family relatives living abroad, emotional ties to persons such as fiancées or friends who were foreign born, or regular business or professional relationships with persons living overseas.

Table 2
Employment and Clearance

Characteristics	<i>n</i>	%
Civilian or uniformed military (n=150)		
Civilian	77	51
Uniformed military	73	49
Rank of uniformed military (n=67)		
E1 -E3	13	19
E4 -E6	34	51
E7 - WO	13	19
Officer	7	11
Type of employment during espionage (n=148)		
Uniformed military	73	49
Civil servant	27	18
Government contractor	35	24
Job unrelated	13	9
Occupational field when espionage began (n=148)		
Communications/intelligence	49	33
General/technical	38	26
Scientific/professional	26	18
Functional support/administrative	24	16
Miscellaneous	11	7
Security clearance when espionage began (n=141)		
Top secret SCI	21	15
Top secret	50	35
Secret	29	21
Confidential	4	3
None held during espionage	37	26

Table 2 demonstrates that the 150 individuals in the database were almost evenly divided between civilians and uniformed military: 77 civilians and 73 military personnel. Instances of military espionage clustered in the E4-E6 ranks (34 cases), which comprised half of those for whom rank is known. The number of young military personnel equaled that of the more experienced E7s and warrant officers, with 13 in each group, and there were seven serving military officers: two Navy, two Army, and three Air Force officers.

Among civilians, government contractors made up nearly one quarter of all cases, and this was the largest category of civilians. Civil servants constituted 18% of all cases, while in 9% of the cases an individual's current employment was unrelated to his or her espionage. In these latter cases, the person typically attempted to sell information from memory, relying on access in previous employment, or worked with others who did have access to sensitive information. Not surprisingly, given the increasing reliance on technologies of all kinds and the types of information most sought by intelligence services, one-third of persons in the database worked in communications or intelligence fields, and another quarter worked in general or technical fields.

Half of the individuals for whom we know their level of security clearance held either Top Secret or Top Secret SCI clearances, which we would expect, since these clearances grant access to highly sensitive information valued by intelligence adversaries. What is more unexpected is the number of persons spying without a security clearance.

One-quarter of the individuals in the database held no security clearance. Many of these acted as accomplices of persons who did have clearances. Some passively but knowingly enjoyed the fruits of a spouse's spying, such as Rosario Ames or Anne Pollard; others like James Durwood Harper, took advantage of a spouse's clearance to convince her to siphon materials from her boss's office safe that he could sell (Miller & Pincus, 1994 [Rosario Ames, Anne Pollard]; Witt, 1985 [Harper]). Thirteen individuals relied on the clearances of friends or colleagues for access, including Andrew Daulton Lee who served as courier for his friend Christopher Boyce. Boyce's high-level clearance in 1977 gave him, but not Lee, access to salable information in the government contractor's vault where he worked. Ten years later in 1987, Kurt Stand exploited the access of his willing partner, a government lawyer named Therese Squillacote (Rawitch, 1977 [Lee and Boyce]; Masters, 1998a [Stand, Squillacote]).

Individuals without current access to classified information found various ways to commit espionage. Eight individuals in the database sold information based on their earlier cleared access after they no longer held a clearance. Some of these stockpiled documents for later sale after they retired, such as Edwin Moore, a disgruntled CIA officer who tried to sell his stash to the Soviets in 1976 (Meyers, 1977). Others relied on their memories to divulge classified operations they had witnessed. These included David Barnett, a former CIA officer who detailed to the Soviets in 1980 the agency's collection methods in Indonesia on Soviet weapons systems, and Ronald Pelton, a retired NSA analyst, who relied on his excellent memory to reveal highly sensitive NSA projects in oral debriefings by the KGB (Taubman, 1980 [Barnett]; Brumley, 1986 [Pelton]).

Five people stole classified materials outright, such as the recent case of Timothy Smith in April 2000, who swiped computer disks from a shipboard desk (Skolnik, 2000). One individual, Edward O. Buchanan, admitted in 1985 that he entered the Air Force planning to sell classified information, but he was caught in his maneuvers before his clearance was approved (Crawford, 1988). Finally, seven individuals have been prosecuted for espionage or attempted espionage who did not hold security clearances and did not sell classified information. What they sold or passed to foreign intelligence was deemed sensitive enough to the national defense to justify being treated as espionage. These cases include Norman Rees, who passed industrial intelligence related to the American oil industry from 1942 to 1975, and Albert Sombolay, who was charged with betraying troop dispositions during Operation Desert Storm in 1991 (Blau, 1976 [Rees]; Associated Press, 1991; Thompson, 1991 [Sombolay]).

Table 3
Patterns in the Act of Espionage

Characteristics	<i>n</i>	%
Duration (n=150)		
Intercepted	39	26
Less than 1 year	30	20
1 to 4.9 years	49	33
5 or more years	32	21
Volunteer or recruit (n=148)		
Volunteer	94	64
Recruit	54	36
Intercepted or passed information (n=150)		
Intercepted	39	26
Passed information	111	74
Method used to begin espionage (n=141)		
Contact foreign agent	21	15
Contact foreign embassy	50	35
Go-between	9	7
Other methods	7	5
Recruited	54	38
Location where espionage began (n=147)		
Outside the U.S.	50	34
U.S. east coast	58	39
U.S. west coast	22	15
U.S. other locations	17	12

Characteristics	<i>n</i>	%
Location where espionage began, outside U.S. (n=50)		
Western Europe	33	66
Asia and Southeast Asia	10	20
Eastern Europe	3	6
Africa	2	4
Middle East	1	2
South America	1	2
Countries or regions that received information (n=109)		
Soviet Union/Russia	57	52
Eastern Bloc other than Soviet Union	22	20
Asia and Southeast Asia	11	10
Central or South America	7	6
Middle East	6	6
Western Europe	3	3
Africa	3	3
Decade espionage began (n=150)		
1940s	5	3
1950s	12	8
1960s	22	15
1970s	26	17
1980s	64	43
1990s	20	13
2000s	1	<1
Decade espionage ended (n=150)		
1940s	1	<1
1950s	6	4
1960s	22	15
1970s	17	11
1980s	65	44
1990s	35	23
2000s	4	3

Table 3 suggests that when we consider duration of espionage by Americans, it appears that espionage is typically a risky and a short-lived crime. One quarter of all cases were intercepted before they passed information, and only one-fifth of the cases persisted five years or more. Americans were twice as likely to volunteer to spy than they were to be recruited: 64% volunteered compared to 36% who were recruited. Of those who volunteered, one-third got in touch with a foreign embassy as their method of initiating contact with a foreign intelligence service, and another 15% contacted a foreign intelligence agent directly as, for example, Robert Hanssen did in 1985 when he mailed his initial offer to the home of a Soviet embassy official. (Risen, 2001) The east coast of the United States has served as the most common location for initiating American espionage, nearly 40% of the cases, which reflects the concentration there of federal government and military offices and facilities, the major intelligence agencies, many industrial facilities, and the embassies and other facilities of foreign countries.

Of the one-third of all cases in the database that were initiated outside the United States, 66% of those began in Western European countries and another 20% began in Asia or Southeast Asia. Of the 109 instances in which we know the country that received information from an American spy, half of these went to the former Soviet Union and another one-fifth went to other countries in the former Soviet bloc. This documents the long contest between the United States and the USSR during the Cold War, which is the context for most of our cases. More surprising is the global ubiquity of the remaining instances.

Neutral or friendly countries in every region of the world, from Asia to Africa, the Middle East to Central America, including some of our close allies in Western Europe, have bought or received sensitive information from American citizens: South Africa, Egypt, El Salvador, Ghana, Liberia, Russia, Israel, Philippines, Ecuador, France, Japan, Greece, Netherlands, Saudi Arabia, South Korea, Taiwan, and in the case of an American intelligence officer sending classified photographs to a British defense publication, the United Kingdom.

Since our database represents the subset of espionage by American citizens that has been discussed in open source literature, we can report only the number of Americans we know about who were spying at a given point in time. There may have been many spies that were not identified, and others whose files remain classified. Other factors, including the shifting policies on prosecutions for espionage and what methods of surveillance and counterintelligence were being used or were legally permissible at a given point, have affected the number of arrests for espionage and their prosecution. Given these limitations, inferences from these cases about the prevalence of espionage at various points in time are tentative. Looking at the decade in which an individual began espionage, these cases show a rate of beginning to spy at about one per year in the 1950s (we excluded all but three cases that began before 1950 in order to focus on the Cold War context), a rate that increased to about two per year through the 1960s and 1970s, after which the number of cases exploded in the 1980s to six per year, when 65 individuals, 44% of our total, started spying or attempted to start. The rate of starting espionage then dropped back in the 1990s to the earlier rate of two per year, although additional cases may come to light that would increase that rate.

On the other hand, looking at the decade in which individuals ended their espionage (whether by arrest, suicide, plea bargain, defection, or some other outcome) suggests an equally pronounced concentration of cases in the 1980s, but an increased rate of cases that were brought to a close in the 1990s. The rate of ending espionage cases was only one every other year in the 1950s; it increased to two per year in the 1960s, dropped off to about one per year in the 1970s, and then exploded to six per year, or 44% of the total, in the 1980s. (The 65 individuals who began espionage in the 1980s are not all the same people whose espionage ended during that period, but some of them were the same, since this group does include the larger number of intercepted volunteers in that decade.) For the 12 years from 1990 through 2001, 37 individuals have had espionage careers stopped, which is one-fourth of the cases in the database.

Table 4
Consequences

Characteristics	<i>n</i>	%
Payment (n=64) ^a		
\$50 – 999	10	16
\$1,000 – 9,999	15	23
\$10,000 – 99,999	23	36
\$100,000 – 999,999	12	19
\$1 million or more	4	6
Initial sentence in years (n=130) ^b		
.1 – 4.9 yrs	29	22
5 – 9.9 yrs	29	22
10 – 19.9	27	21
20 – 29.9 yrs	14	11
30 – 39.9	11	9
40 yrs	3	2
life in prison	17	13
Outcomes other than prison sentence (n=20)		
Defected	7	35
Granted immunity from prosecution	5	25
Suicide	4	20
Allowed to retire	2	10
Died	1	5
Exchanged	1	5

^a Payment is reported only for individuals who did pass information; 28 individuals who did pass information received no payment for their act.

^b Sentence is reported only for those sentenced to prison; 20 individuals had other outcomes.

From the consequences experienced by the 150 individuals in the database, looking at Table 4, we can assert that on average espionage does not pay well. In 19 cases we do not know what the individuals were paid. Excluding the 39 other people who were intercepted before they passed information and who therefore received nothing, there were also 28 individuals who did pass information, or participated in its passage, and yet seem to have received nothing in payment for their crime. Reasons for this varied: for 7 of these 28 people it is unclear why they apparently received nothing; 9 individuals did not act for money but rather for ideological commitments of various kinds; 3 people spied for other objectives, such as favors from a government in the case of Michael Allen, or a more prestigious job in Samuel Morison's case (Associated Press, 1986 [Allen]; Valentine, 1984 [Morison]). Five people spied to help family members or friends as, for example, Ronald Humphrey did in 1976 when he sold documents to Viet Nam for information on his common law Vietnamese wife who was trapped there; one person in this group, Irvin Scarbeck, was blackmailed after a foreign intelligence service set him up with a woman and photographed him (Seaberry & Mansfield, 1978 [Humphrey and Truong]; DeGramont, 1962 [Scarbeck]). Adding this group of 28 to the 39 interceptions in the database gave us 67 people, or 45% of the total, who apparently received nothing for risking the serious crime of espionage.

The most common monetary reward for the 64 persons in the database who are known to have been paid was between \$10,000 and \$100,000; one-fourth of these individuals were paid in this range. Ten persons received between \$50 and \$1000 for espionage. Fifteen were paid between \$1000 and \$10,000, and 12 received between \$100,000 and \$1 million. Only 4 people may have made the big money, \$1 million or more: Aldrich Ames, Larry Wu-tai Chin, Clyde Conrad, and possibly John Walker, Jr. (Pincus, 1994 [Ames]; Shenon, 1985 [Chin]; Ostrow & Jehl, 1990 [Conrad]; New York Times Service, 1987 [Walker ring]).⁵

Prison sentences for espionage or attempted espionage varied depending on factors such as the importance of the information lost, the length of time of the spying, the venue of the trial (military court martials have tended to mete out longer sentences), the then-current policies of the federal government on espionage prosecution, the context of the time (e.g., wartime or peace, chilly Cold War or détente), and the then-current relationship of the United States with the country that received the information (some were neutrals or allies of the U.S.). Of the 130 whose prison sentences we know, 65% spent 20 years or less in prison for espionage: nearly equal numbers spent 1 to 5, 5 to 10, and 10 to 20 years there. Three received 40-year sentences, and 17 were initially sentenced to life in prison. Three of these life sentences were reduced in later court proceedings to 10 years, to 27 years, and in the case of George Gessner, to no prison sentence at all (Rafalko, n.d.).

Comparison of Those Intercepted with Those Who Transmitted Information

We compared the group of those who were intercepted on their first attempt at espionage (that is, discovered before or during an attempt before information could be passed) with the group of those who did transmit information at least once, to determine if there were differences between the groups. Cases of attempted espionage were included in our analysis because of our interest in how and why people choose an act of betrayal; those who made the choice for espionage but then did not succeed at it are part of the larger universe of trust betrayers. Table 5 reports only the key differences, in percentages or medians, to facilitate comparison between the two groups. Each group is discussed in turn.

Table 5
Comparison of Those Intercepted with Those Who Transmitted Information

Characteristics	<i>Intercepted (n=39)</i>	<i>Transmitted (n=111)</i>
Gender (n=150)	100% male	90% male 10% female
Race or ethnic group (n=143)	100% white	80% white 20% non-white

⁵ John J. O'Connor disputes the \$1 million figure for Walker in favor of \$350,000 in "TV View; American spies in pursuit of the American Dream," *New York Times*, February 4, 1990.

Characteristics	<i>Intercepted (n=39)</i>	<i>Transmitted (n=111)</i>
Median age when espionage began, in years (n=147)	24 years	34 years
Median education when espionage began, in years (n=133)	12 years	14 years
Marital status when espionage began (n=140)	69% single 31% married	34% single 66% married
Military or civilian (n=150)	70% military 30% civilian	41% military 59% civilian
Military rank (n=67)	92% E6 or lower 8% E7 or higher	57% E6 or lower 43% E7 or higher
Major job category (n=148)	55% general/technical	36% communication/intelligence
Security clearance (n=141)	78% Secret, Confidential, or none 22% TS or TS/SCI	40% Secret, Confidential or none 60% TS or TS/SCI
Native or naturalized citizenship (n=148)	92% native 8% naturalized	79% native 21% naturalized
Foreign attachments (n=150)	18% had foreign attachments 82% no foreign attachments	53% had foreign attachments 47% no foreign attachments
Where espionage began (n=146)	87% US 13% foreign location	59% US 41% foreign location
Volunteer or recruit (n=148)	92% volunteer 8% recruit	53% volunteer 47% recruit
Decade began (n=150)	74% 1980s 8% 1990s	32% 1980s 14% 1990s
Decade ended (n=150)	74% 1980s 8% 1990s	32% 1980s 29% 1990s
Length of initial sentence (n=129)	42% 5 years or less 37% more than 5 and less than 20 21% 20 or more years	28% 5 years or less 31% more than 5 and less than 20 41% 20 or more years
Motivation	Single motive: 67% (n=26) Money 21 Divided loyalties 1 Disgruntlement 2 Thrills 1 Ingratiation 1 Multiple motives: 33% (n=13) Money 13 Divided loyalties 1 Disgruntlement 10 Thrills 2	Single motive: 52% (n=58) Money 26 Divided loyalties 12 Disgruntlement 9 Ingratiation 6 Coercion Thrills 1 Multiple motives: 48% (n=53) Money 44 Disgruntlement 21 Divided loyalties 19 Thrills 13 Recognition 6 Coercion 5

Intercepted on First Attempt

Table 5 shows that all 39 of those intercepted were young white males. The median age for this group was 24 years and the median level of education was 12 years, a high school graduate. Two-thirds were single, including as single those who were separated or divorced. Seventy percent were members of the military, almost all at ranks of E6 or lower. Half of those

Name	Date of Attempt	Affiliation
Mueller, Gustav	49/10/00	Air Force
French, George	57/04/05	Air Force
Wine, Edward	68/08/21	Navy
Grunden, Oliver	73/09/28	Air Force
Moore, Edwin	76/12/22	Civilian
Madsen, Lee	79/07/26	Navy
Murphy, Michael	81/06/00	Navy
Baba, Stephen	81/09/01	Navy
Gilbert, Otto	82/04/17	Civilian
Horton, Brian	82/06/00	Navy
Slavens, Brian	82/08/31	Marine
Ellis, Robert	83/02/09	Navy
Wold, Hans	83/05/00	Navy
Slatten, Charles	84/02/00	Army
Cordrey, Robert	84/04/12	Marine
Irene, Dale	84/08/12	Civilian
Cavanagh, Thomas	84/12/00	Civilian
Wolff, Jay	84/12/15	Civilian
Hawkins, Stephen	85/00/00	Navy
Buchanan, Edward	85/05/06	Air Force
Pizzo, Francis	85/08/11	Civilian
Tobias, Michael	85/08/11	Navy
Tobias, Bruce	85/08/12	Civilian
Ott, Bruce	86/01/09	Air Force
Haguewood, Robert	86/02/00	Navy
Davies, Allen	86/09/22	Civilian
Richardson, Daniel	88/01/00	Army
Kunkle, Craig	88/12/00	Civilian
Graf, Ronald	89/00/00	Navy
King, Donald	89/00/00	Navy
Wilmoth, James	89/02/00	Navy
Wolf, Ronald	89/03/00	Civilian
Brown, Russell	89/04/00	Navy
Haeger, John	89/10/00	Navy
Schoof, Charles	89/10/00	Navy
Anzalone, Charles	90/11/00	Marine
Charlton, John	93/07/00	Civilian
Lessenthien, Kurt	96/00/00	Navy
Smith, Timothy	00/04/07	Civilian

intercepted worked in general or technical occupational fields such as military instructor, driver, crewman, repairman, food service worker, guard, laboratory technician, medical assistant, paralegal, or machinist, which reflects their level of education, their military experience, and their age. Given the types of work that the majority of these individuals did, it also follows that three-fourths of them held lower-level security clearances, at the Secret or Confidential level, and that 10 of these had no clearance at all. Most (37 of 39) were DoD cases, either themselves members of the military or civilians with friends who had DoD access.

Most of the interceptions (87%) took place in the United States, not overseas. Four-fifths of these individuals did not have known foreign attachments, such as foreign-born parents, fiancées, or spouses, and almost all (92%) of those intercepted had been born in the United States.

In a strongly consistent finding, 92% of those intercepted (36 of 39) had volunteered to commit espionage. Only 3 individuals, John Haeger, Dale Irene, and Otto Gilbert, had been recruited, two by friends and Gilbert by an intelligence service. Many of the intercepted volunteers acted impulsively and with little thought to potential complications they could encounter. Some knew nothing about how the embassies of hostile powers, such as the Soviet Embassy, are routinely monitored by the FBI; another,

Michael Tobias, U.S. Navy, telephoned the U.S. Secret Service to extort money from them by selling back the cryptographic code cards he had stolen—wouldn't the Secret Service be the appropriate agency to deal in secrets? (Associated Press, 1988). The lack of sophistication or forethought in most of these cases demonstrated the youth and inexperience of the perpetrators.

Table 6 lists the names, dates of attempted espionage, and affiliations of the 39 individuals who were intercepted. Although each decade between 1950 and 2000 included several instances of interceptions, three-fourths of these cases clustered in the 1980s. The run of easily caught volunteers trying to sell secrets in the 1980s challenged American law enforcement and counterintelligence with sheer numbers; the apparently sudden outbreak of espionage was widely discussed in the press and provoked much soul searching about the moral character of Americans, especially the young (Harrington, 1988; Tuchman, 1987).

As we might expect in cases in which no information changed hands, almost half of these individuals received light initial sentences. Forty-two percent got five years or less, and ten individuals served sentences of three years or less. On the other hand, these cases demonstrate that attempted espionage can be taken very seriously and punished accordingly: one-third of those who were intercepted received sentences of more than 5 and less than 20 years, and one-fifth were sent to prison for 20 years or more.

Most intercepted spies said that they did it for money. Of those with a single motive, 80% (21 of 26) tried to commit espionage for the money. All of those with multiple motives (13 of 13) included money as one of their motives. While some who were intercepted displayed other common motives, notably disgruntlement with work life, money was clearly the primary motive in this group of cases.

Transmitted Information

The 111 individuals in the database who transmitted information varied more than those who were intercepted, as can be seen in Table 5. Those who did pass information included men and women, whites and blacks, Asians and Hispanics; all of the women (11 of 111) and all of the non-whites (21 of 111 in the database) succeeded in transmitting information. Persons in this group tended to be older and better educated. They had a median age of 34, compared to 24 for the intercepted group, and they had a median of two additional years of education. Whereas two-thirds of intercepted individuals were single, two-thirds of those who succeeded in passing information were married.

Three-fifths of the group that did pass information were civilians, compared to the 70% of those intercepted who were members of the military. The "successful" spies included almost all those who worked in intelligence agencies (all but one instance). The military personnel who did transmit information tended to be at higher ranks than those intercepted; in the successful group were 5 of the 7 officers and all 13 of those at ranks from E7 through warrant officers. More members of the Air Force and the Army have actually transmitted information than have members of the Navy, as Table 7 below shows. All but 2 of the 26 Army personnel who attempted espionage did pass information, as did 13 of the 18 Air Force members.

Table 7
Espionage in U.S. Military Services

Military Service	<i>Intercepted</i>		<i>Transmitted</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Navy	17	68	8	32
Air Force	5	28	13	72
Army	2	8	24	92

Occupations among “successful” spies varied more than among those who were intercepted; the largest occupational category among those who passed information was the one-third who worked in communications or intelligence fields. Those who passed information also held higher-level security clearances than did those intercepted: three-fifths of those who succeeded had Top Secret or SCI clearances.

One of the major differences between those who were intercepted and those who transmitted information is the number of naturalized citizens and their foreign attachments. One-fifth of those who passed information were naturalized citizens. Half of the “successful” spies had family, emotional, or business ties to persons born or living overseas, compared to slightly less than one-fifth of those who were intercepted. There have been instances of Americans with foreign attachments who used these connections in their espionage, such as Leslie Payne who used his German wife in 1974 to deliver documents to the East Germans, or Zoltan Szabo, a Hungarian-born naturalized citizen of the U.S. and founder of the Conrad spy ring in Europe, who employed two Hungarian doctors as couriers to move NATO secrets to the Hungarian intelligence service in the 1970s (Associated Press, 1977a [Payne]; Gerth, 1989 [Szabo]).

On the other hand, for many spies with foreign attachments, these ties had no direct impact on their espionage. Foreign attachments are common in the United States, and persons in the military or in an intelligence service who live overseas often do marry or develop other ties of business or friendship with locals. These patterns do not imply that having foreign attachments makes an individual less trustworthy or more susceptible to espionage, but they may make the person more vulnerable to recruitment. Some attachments have provided a hook for coercion of Americans into espionage; for example, in the 1975 case of Ronald Humphrey, his concern for his Vietnamese wife gave the Soviets this advantage over him (Seaberry & Mansfield, 1978). A second factor that may be at play (though it is difficult to say which is cause and which is effect) is that people with foreign experience tend to take a more cosmopolitan, less nationalistic outlook that may broaden, and thus also multiply, their allegiances (Heuer & Herbig, 2001).

Three times as many “successful” spies began their espionage in a foreign location compared to those who were intercepted. In part this reflects the typical overseas assignments of intelligence officers, all but one of whom were in the “successful” group. Being stationed overseas puts an individual in relatively easier contact with foreign intelligence services, either to volunteer to work for them or to be groomed and recruited into espionage by their recruiters. Of the 50 cases of espionage by Americans that began in locations outside the United States, 45 did transmit information.

A second major difference between those intercepted and those who transmitted information is in the numbers of volunteers versus recruits. Whereas less than 10% of those intercepted had been recruited, almost half of those who "succeeded" at espionage were recruits. Recruits discussed here include both those brought into espionage by a foreign intelligence service and those brought in by family or friends. The relative "success" of recruits reflects the evaluation procedures often exercised by recruiters trying to discern promising candidates. Recruiters have been known to take some time assessing persons who seem to need money and to target those who are also well placed for their access to the most desirable secrets.

For example, Clyde Conrad recalled that his own recruitment by two Hungarian intelligence operatives in a German *gasthaus* was the culmination of a cautious assessment of him by his friend, Zoltan Szabo:

As the three men dined and drank, Szabo and Kercsik popped the question without great fanfare. Their business was providing classified information to the Hungarian Military Intelligence Service, and Conrad had been evaluated as a potential bright star who would do well in the enterprise. What did he think?

Conrad recalled how surprised the two men were at his unhesitating agreement to sign up for the enterprise...After lunch, Szabo and Kercsik informed him that Budapest desired an immediate demonstration of his sincerity and commitment. Within minutes...[they] arrived at the Rose Barracks headquarters of the division. Clyde strode boldly into the G-3 Plans section and stole a pile of documents. It had been that simple. Sandor [Kercsik] promptly transported the haul to Budapest, where the Center declared its satisfaction with the take (Herrington, 1999).

Supporting the notion that being recruited tends to support "success" in espionage is the finding that of the 54 individuals in the database who were recruited, 51 "succeeded" at espionage by passing information.

Initial prison sentences meted out to Americans who passed information were longer than for those for only attempted espionage. Those who received light sentences of 5 years or less comprised two-fifths of those intercepted, but one quarter of those who passed information. More of those who had been intercepted were sentenced to periods of between 5 and 20 years than were "successful" spies (37% for those intercepted, 31% for "successful"), which seems somewhat counterintuitive until one considers that the factor of damage from espionage is often weighed by judges in sentencing. Only in the longest prison term category, 20 years to life in prison, did people who transmitted information receive longer initial sentences (21% for those intercepted, 41% for "successful").

The stated motives of those who transmitted information also varied more than did those who attempted espionage but were intercepted. Whereas four-fifths of individuals who had been intercepted and who claimed only one motive tried to commit espionage for money, money motivated only half of the "successful" spies with a single motive. The next most frequent single motives were divided loyalties and disgruntlement (divided loyalties 21% and disgruntlement 16%). Among "successful" offenders with multiple motives, money came first, again followed

by disgruntlement and divided loyalties. We coded homeland identification or ethnic group fellow-feeling as divided loyalties in the database, since it was impossible to disentangle competing national commitments from adherence to causes or philosophies, such as Communism, that also have cultural overtones. Disgruntlement almost always refers to tensions or resentments in the workplace, or to disappointment with a career.

Comparison of Military and Civilian Spies

We compared the 73 members of the uniformed military with the 77 civilians in the database. Unlike the previous comparison, in this section we make no distinction between those who were intercepted and "successful" spies. Table 8 summarizes this comparison. We discuss characteristics of the civilian group first, followed by those of the military group.

Table 8
Comparison of Military and Civilian Spies

Characteristics	<i>Civilian (n=77)</i>	<i>Military (n=73)</i>
Gender	87% male 13% female	99% male 1% female
Median age (n=147)	39 years	25 years
Median education (n=133)	16 years	12 years
Marital status (n=140)	39% single 61% married	46% single 54% married
Intercepted or transmitted (n=150)	16% intercepted 84% transmitted	37% intercepted 63% transmitted
Major occupational categories (n=148)	30% communications/intelligence 30% scientific/professional	39% general/technical 38% communications/intelligence
Security clearance (n=141)	51% Secret, Confidential, or none 49% TS or TS/SCI	48% Secret, Confidential, or none 52% TS or TS/SCI
Native or naturalized citizenship (n=148)	74% native 26% naturalized	92% native 8% naturalized
Foreign attachments (n=150)	52% had foreign attachments 48% no foreign attachments	36% had foreign attachments 64% no foreign attachments
Volunteer or recruit (n=148)	57% volunteer 43% recruited	71% volunteer 29% recruited

Characteristics	<i>Civilian (n=77)</i>	<i>Military (n=73)</i>
Where espionage began (n=146)	80% U.S. 20% foreign location	51% U.S. 49% foreign location
Decade began (n=150)	40% 1980s	47% 1980s
Decade ended (n=150)	44% 1980s	51% 1980s
Length of initial sentence (n=130)	38% 5 years or less 36% more than 5 and less than 20 years 26% 20 or more years	26% 5 years or less 31% more than 5 and less than 20 years 43% 20 or more years
Motivation	Single motive: 45% (n=35) Money 9 Divided loyalties 11 Disgruntlement 6 Coercion 2 Ingratiation 7 Multiple motives: 55% (n=42) Money 36 Divided loyalties 16 Disgruntlement 18 Thrills 8 Ingratiation 13 Coercion 3 Recognition 6	Single motive: 67% (n=49) Money 38 Divided loyalties 2 Disgruntlement 5 Coercion 2 Thrills, 2 Multiple motives: 33% (n=24) Money 21 Divided loyalties 4 Disgruntlement 13 Thrills 8 Ingratiation 6 Coercion 2

Civilian Spies

Table 8 shows that 10 of the 11 female spies in the database were civilians, along with 67 civilian males. The median age for civilians was 39 years of age. They had a median level of education of 16 years. Three-fifths of them were married when they began their espionage.

Civilians tended to succeed at espionage: only 16% were intercepted, while 84% transmitted information. Civilian spies tended to work in one of two occupational categories, with 30% in either scientific or professional fields, and 30% in communications or intelligence. Half of the civilians held high-level security clearances, Top Secret or SCI, while the other half held lower clearances or none at all. More than one-third of the civilians in the espionage database had no security clearance and relied on others for access to information.

One quarter of the civilian group were naturalized citizens, and half of the civilians had foreign attachments. Four-fifths of civilians began their espionage in the United States. Civilians were likely targets for recruitment, since 43% of civilians had been recruited. Initial sentences for civilian spies were weighted toward the lighter sentences. Two-fifths of civilians received sentences of 5 years or less, almost two-fifths got more than 5 but less than 20 years, and one quarter were sentenced to 20 or more years in prison.

Publicly available data suggests that more spying began and ended in the decade of the 1980s than in other periods of time: among civilians, 40% began spying in the 1980s and 44% were caught during that decade (though these were often not the same persons.) Money was the most commonly cited motive of civilian spies: in more than four-fifths of the civilian cases with multiple motives, money was one of the motivations. Civilians also spied for a variety of other reasons. Among civilians with a single motive, only one-fourth spied for money alone. Divided loyalties motivated more civilians with a single motive (30%) than did money. An example of a civilian who spied from a competing allegiance and who took no money for his actions was Thomas Dolce, a civilian research analyst at the Aberdeen Proving Ground in Maryland. Dolce admitted passing at least 40 secret-level documents to South African military attaches between 1979 and 1983 because, he explained, he supported the long-term interests of South Africa and intended to live there. He was sentenced to 10 years in prison and a \$5,000 fine for his espionage (Valentine, 1988).

After divided loyalties and money, disgruntlement was the next most common civilian motive. An example was an ex-NSA analyst named Victor Hamilton. An immigrant to the United States from Palestine, Hamilton changed his last name from Hindali. He attended American University in Beirut, and became a naturalized US citizen in the 1950s. He worked at NSA using his language skills to do code breaking in the Middle Eastern section starting in 1957. Two years later he was dismissed from NSA for mental problems. He told people at the time that he would get revenge, and in 1962 he disappeared into the Soviet Embassy in Prague, then went on to Moscow in 1963. An article in *Izvestia* that year claimed he had asked for asylum, and that he had told the Soviets all he could about NSA's interceptions of communications between Arab countries and their UN missions. Hamilton spent the rest of his life in Soviet mental hospitals until he was discovered there in 1992 by investigators from the Ark project, a private group who were searching for missing Americans in Russia (Hiatt, 1992; Blumenthal, 2001).

Military Spies

All but one of the military spies were male, the exception being Kelly Church Warren, an Army private recruited into the Conrad spy ring (Walters, 1997). Median age of military spies was 25, which is 14 years younger than the median age of civilians. The median level of education for the military was 12 years, or high school graduate, 4 years less than the median for civilians. Thus members of the military who attempted espionage were much younger and had received less education than their civilian counterparts.

More than one-third (37%) of military spies were intercepted before they could pass information, and most of those intercepted were the younger, more junior ranks of military personnel, with 10 individuals at E1 through E3 rank and 14 at E4 or E5 rank. Nearly equal percentages, roughly two-fifths, of military spies worked in general or technical occupations and in communications or intelligence fields. The proportions of those with lower-level security clearances or no clearance at all mirrored those of the civilians. Fewer military spies had naturalized American citizenship than did civilians: 92% of military were native born, as opposed to 74% of civilians. Not surprisingly, fewer military than civilians had foreign attachments as well.

More military spies volunteered to commit espionage than did civilians: 71% of the military compared to 57% civilians. Reflecting tours of duty overseas for many in the military and the relative ease of initiating espionage on foreign soil, half the military spies began their espionage from a foreign location, as opposed to one-fifth of the civilian spies. Like civilians, the bulk of military espionage cases began and ended in the 1980s or 1990s, with slightly higher percentages of military focused in those decades. Military spies as a group got stiffer prison sentences than did civilians: one-fourth of military spies got 5 years or less, 31% received more than 5 but less than 20 years, and 43% got 20 years or more, compared to 26% of the civilians with the longest sentences.

Money dominated the motivations of military spies. Three-fourths of those with a single motive spied for money, and 21 of the 24 individuals with multiple motives included money as a motive. Divided loyalties rarely motivated military spies; disgruntlement or coercion occasionally did, and some members of the military sought thrills from their espionage.

Comparison of Volunteers and Recruited Spies

Cases in the database of those who volunteered to commit espionage were compared with those who were recruited by family or friends and those who were recruited by a foreign intelligence service. Table 9 summarizes characteristics of these three groups. For two of the cases, we do not know the source of the individual's recruitment, so the total of cases in this comparison is 148. Volunteers are discussed first, then each of the other two groups in turn.

Table 9
Comparison of Volunteers and Recruited Spies

Characteristics	<i>Volunteers (n=94)</i>	<i>Recruited by Family or Friend (n=22)</i>	<i>Recruited by a Foreign Intelligence Service (n=32)</i>
Gender (n=148)	97% male 3% female	68% male 32% female	97% male 3% female
Median age (n=145)	30 years	26 years	38 years
Median education (n=131)	12 years	14 years	14 years
Marital status (n=139)	51% single 49% married	50% single 50% married	20% single 80% married
Military or civilian (n=148)	53% military 47% civilian	41% military 59% civilian	38% military 62% civilian
Military rank (n=66)	83% E6 or lower 17% E7 or higher	63% E6 or lower 37% E7 or higher	33% E6 or lower 67% E7 or higher
Intercepted or transmitted (n=148)	38% intercepted 62% transmitted	9% intercepted 91% transmitted	3% intercepted 97% transmitted

Characteristics	<i>Volunteers (n=94)</i>	<i>Recruited by Family or Friend (n=22)</i>	<i>Recruited by a Foreign Intelligence Service (n=32)</i>
Major occupational categories (n=148)	40% communications/intelligence	27% general/technical 27% functional support/administration	42% scientific/professional
Security clearance (n=140)	53% Secret, Confidential, or none 47% TS or TS/SCI	35% Secret, Confidential, or none 65% TS or TS/SCI	52% Secret, Confidential, or none 48% TS or TS/SCI
Native or naturalized citizenship (n=146)	88% native 12% naturalized	86% native 14% naturalized	62% native 38% naturalized
Foreign attachments (n=148)	33% had foreign attachments 67% no foreign attachments	32% had foreign attachments 68% no foreign attachments	84% had foreign attachments 16% no foreign attachments
Where espionage began (n=145)	75% U.S. 25% foreign location	64% U.S. 36% foreign location	47% U.S. 53% foreign location
Decade began (n=148)	48% 1980s	59% 1980s	19% 1960s 25% 1970s 22% 1980s 19% 1990s
Decade ended (n=148)	47% 1980s 21% 1990s	41% 1980s 41% 1990s	28% 1960s 38% 1980s 13% 1990s
Length of initial sentence (n=129)	33% 5 years or less 32% more than 5 and less than 20 35% 20 or more years	35% 5 years or less 25% more than 5 and less than 20 40% 20 or more years	30% 5 years or less 40% more than 5 and less than 20 30% 20 or more years
Motivation (n=148)	Single motive: 54% (n=51) Money 30 Divided loyalties 8 Disgruntlement 9 Thrills 2 Ingratiation 2 Multiple motives: 46% (n=43) Money 37 Divided loyalties 10 Disgruntlement 28 Thrills 11 Ingratiation 9 Recognition 4	Single motive: 55% (n=12) Money 6 Disgruntlement 1 Ingratiation 5 Multiple motives: 45% (n=10) Money 9 Divided loyalties 4 Thrills 1 Ingratiation 7 Coercion 1 Recognition 1	Single motive: 66% (n=21) Money 11 Divided loyalties 5 Disgruntlement 1 Coercion 4 Multiple motives: 34% (n=11) Money 10 Divided loyalties 5 Disgruntlement 3 Thrills 4 Ingratiation 2 Coercion 3 Recognition 1

Volunteers

As Table 9 demonstrates, almost two-thirds of the individuals in the database volunteered to commit espionage. All but three of the 94 volunteers were male, with a median age of 30 and a median education of high school graduate. Slightly more volunteers were military than were civilians (53% military and 47% civilian). Of the military volunteers, most came from the junior ranks, with four-fifths at E6 grade or lower.

The largest group, two-fifths of the volunteers, worked in communications or intelligence fields. Examples from this group of volunteer spies include Joseph Helmich, an Army warrant officer who spied for the Soviets for four years, from 1963 to 1967, giving up cryptography, manuals, and rotors for coding machines during the Vietnam War; or William Kampiles, an unhappy CIA employee who got back at what he felt were the agency's slights by selling the manual for an intelligence satellite; or Robert Kim, a civilian computer specialist working for the Office of Naval Intelligence in 1996, who mailed classified information on the Far East and on tracking systems to a South Korean agent (Jaynes, 1981 [Helmich]; O'Toole & Babcock, 1978 [Kampiles]; Masters, 1997 [Kim]).

Helmich, Kampiles, and Kim had at least one thing in common: they did transmit classified information to a foreign nation's intelligence service, as did 62% of the volunteers in the database. This gives the group of volunteer spies a rate of 38% intercepted in their attempts at espionage. Several factors tend to explain the troubles of volunteer spies. Many suffered from ignorance about the methods of espionage, and from overconfidence in their abilities, and so ran afoul of official surveillance or were reported to the FBI by those around them who observed their actions. Their schemes reflected a youthful inexperience, since overall they were much younger than volunteers who succeeded, with a median age of 24, as opposed to a median for "successful" volunteers of 35. Thirdly, volunteers who failed were somewhat more likely to try espionage on their own: 72% went solo on their spying, while among volunteers who "succeeded" 62% worked alone. Volunteering alone may mean taking the risk of drawing attention to oneself by making initial contact with a buyer, usually a foreign intelligence operative or diplomatic official.

Most volunteers were native-born Americans (88%), only one-third of them had foreign attachments, and three-fourths volunteered from locations within the United States. Half of the 71 volunteers spied from places on the east coast. Almost half of all the volunteers, 48%, began espionage during the 1980s and an equal proportion were caught in the 1980s. However, another 20% of volunteers were caught in the 1990s, making the recent decade another notable period of counterintelligence actions.

One-third of volunteers received the lightest initial sentences of 5 years or less; another third received 5 to 20 years, and a final third of them received 20 or more years. Motivation for volunteers as a group also did not differ significantly from recruits. Money motivated volunteers most often, since almost 60% of those with a single motive spied for money and four-fifths of those with multiple motives included money as a motive, but a variety of the other typical motives drove some volunteers to espionage, including divided loyalties, ingratiation, thrills, and

especially disgruntlement. Significant among volunteers with multiple motives were the 65% that included disgruntlement as one of their motives.

Recruited by Family or Friends

Among spies recruited by a friend or family member, one-third were female. This contrasts with the other two groups compared in Table 9 that were each 97% male. This finding adds to the impression that for women, pressure by or a desire to please persons close to them is a significant pattern in their espionage.

Individuals recruited by persons close to them were the youngest of the three groups; they had a median age of 26, which is four years younger than the median for volunteers and 12 years younger than the median for recruits by an intelligence service. Their median for education, 14 years, paralleled those recruited by intelligence services. Those recruited by family or friends were somewhat more likely to be civilians (three-fifths civilian versus two-fifths military). Among the military, two-thirds came from the lower military ranks, E6 or lower.

Most of the spies recruited by family or friends did transmit information. Nine-tenths of this group "succeeded" in espionage by passing information. They had the involvement of those who had recruited them into the act to help them along with coaching and experienced advice, and this support showed in the results. Of the 18 cases in which the recruiter is known, the recruiters of half of those recruited by family or friends, 9 persons, had themselves been recruited, while the other half were volunteers. An example of a volunteer who in turn recruited a friend of his was Robert Lee Johnson, a Army sergeant stationed in West Berlin, who in 1953 crossed to East Berlin and offered to defect after he had been passed over for promotion. The KGB convinced him his revenge would be sweeter if he returned to his job and supplied them with classified information. Johnson soon proved to have more initiative than the KGB wanted in their spies, for he angered his handlers by recruiting a friend and fellow Army sergeant, James Allen Mintkenbaugh, on his own. The Soviets readily accepted Mintkenbaugh, however, after they found out he was homosexual; in the military culture of the mid-1950s, this sexual orientation often led to alienation and the desire for revenge, and they urged Mintkenbaugh to "spot" other like-minded prospects for them.

Johnson and Mintkenbaugh spied for the Soviets in various jobs in and out of the Army from 1953 through 1964, but only in 1962 did Johnson hit pay dirt with a job that allowed him to pass seriously damaging information. He began working in the Armed Forces Courier Center outside Paris, where he could rifle the sealed pouches being flown to various U.S. commands throughout Europe. The KGB taught him sophisticated tradecraft and monitored him closely as Johnson stole the pouches from a triple-locked vault and delivered them to the Soviets to keep overnight; they copied the documents, re-sealed the pouches, and had Johnson return them to the vault. No one ever discovered that these documents had been compromised.

Johnson's German-born wife, also spying for the KGB, suffered a mental collapse in 1964. She went to the FBI and confessed her espionage, also implicating Johnson and

Mintkenbaugh.⁶ Johnson was sentenced to 25 years in prison, but he did not live to serve out his prison term. In May 1972 his son, a Vietnam veteran, visited his father in his cell in Lewisburg Federal Penitentiary and stabbed Johnson to death. (Barron, 1974; Rafalko, n.d.)

Individuals recruited by those close to them most often worked in general or technical occupations or in functional support or administrative roles. Two-thirds of them held TS or TS/SCI security clearances, the highest proportion of high-level clearances of the three groups. Among the 13 individuals with TS or TS/SCI clearances, 10 were recruited by persons with no access to classified information who were clearly capitalizing on their contact; these cases include Sahag Dedeyan who spied for his cousin, a KGB recruit; Philip Seldon who spied for a friend working for Philippine intelligence; and George Trofimoff who spied for 40 years for his boyhood stepbrother, a Russian Orthodox archbishop and a KGB agent (Asbury, 1975 [Dedeyan]; Hall, 1996 [Seldon]; Pressley, 2001 [Trofimoff]). The three other recruits with TS clearances who were brought into espionage by family or friends—Arthur Walker, Michael Walker, and Jerry Whitworth—spied for John Walker, Jr., mastermind of the Walker spy ring. John Walker feared his long career as a volunteer spy would end when he retired from the Navy in the mid-1970s to avoid a reinvestigation of his security clearance, and he hedged his bets by recruiting others around him with access to classified materials: first his best friend, then his brother and his son (Barron, 1987 [Walker, Jr.]).

The group of those recruited by family or friends were like the volunteers in the proportions of native and naturalized citizens (86% native) and foreign attachments (one-third had such attachments). One-third began espionage in a foreign location (half of these being members of the Conrad spy ring in West Germany). Three-fifths began spying in the 1980s, and two-fifths also were caught in the 1980s, but another two-fifths were caught in the 1990s.

Slightly more of those recruited by family or friends received long sentences for their espionage: 40% got 20 or more years in prison, compared to 35% of volunteers and 30% of those recruited by a foreign intelligence service. Money again proved the most tempting lure: for half of those with a single motive it was money they wanted, as it was for 9 out of 10 with multiple motives. However, as expected, ingratiation played a significant part in motivations in this group: 5 of the 12 with a single motive sought to ingratiate themselves with their recruiter, and for 7 of 10 with multiple motives ingratiation was one of their motives.

Recruited by a Foreign Intelligence Service

The 32 individuals recruited by a foreign intelligence service to commit espionage against the United States were almost all male (31 of 32), middle-aged (median age of 38), and married (four-fifths married). Two-thirds were civilians, and of the 12 members of the military, 9 came from ranks of E6 or higher, including three officers. This would suggest that seasoned, more experienced people who are well placed to supply information might be more vulnerable to

⁶ Wives who report their spouse's espionage are one response by relatives to learning about espionage, but others knew and delayed or never did report it. In addition to Johnson, John Walker, Jr., Robert Lipka, and Michael Souther were turned in by their wives, sometimes decades after the spying began. On the other hand, Robert Hanssen's wife knew about his spying in 1981 and did not turn him in, allowing him to continue helping the Soviets and then the Russians for fifteen years.

development and recruitment by foreign intelligence services.

As Table 9 shows, all but one of these 32 recruits transmitted information, which gave this group a 97% "success" rate. Like the other group of recruits, they benefited from the ongoing support, and in many cases, the training of their recruiters. Yeoman First Class Nelson Drummond, for example, was recruited into espionage by a Soviet "spotter" while stationed in London in 1958. The man approached Drummond on the street while he walked home from work and struck up a conversation. The intelligence agent quickly demonstrated that he already knew a lot about Drummond, especially that the Navy man was chronically in debt and could use the £250 he offered him. The handler kept in steady contact with Drummond when he transferred back to the United States, providing a Minox camera that he could use to photograph classified documents he handled as a clerk in the Mobile Electronics Technical Unit in Newport, R.I. Drummond spied for the Soviets for five years, and received a sentence of life in prison after a trial in 1963 (Rafalko, n.d.).

Those recruited by foreign intelligence services differed from the other two groups because the largest occupational category for this group was scientific or professional fields (42%), which suggests that access to information in these occupations has been highly prized by foreign intelligence services, and may reflect the accessibility of persons in these fields to assessment. Not surprisingly in a database focused on the Cold War, 30 of the 32 recruits by a foreign intelligence service in the database spied for the Soviet Bloc, half for the Soviet Union itself, half for Eastern European or Cuban intelligence services, which would as a matter of course share their take with the Soviets. Only two recruits, Larry Wu-tai Chin, who spied for the People's Republic of China for 33 years, and Joseph Brown, who supplied information to a Philippine government official, worked outside the Soviet orbit (Shenon, 1985 [Chin]; Branigan, 1993 [Joseph Brown]).

Recruits by foreign intelligence services had more foreign connections than did the other two groups: almost forty percent were naturalized citizens, 84% had foreign attachments (defined to include relatives, emotional commitments, or business and professional ties), and more than half began espionage from foreign locations. In at least one-fourth of these cases, the foreign ties did influence the espionage, providing motives for assisting another country, such as Chin's long spying career for the People's Republic, entrée for implied blackmail such as the Hungarians' offer to Jamos Szolka to make life easier for his mother in Hungary, or professional duties to a homeland's intelligence collection such as Karl Koecher's work as a CIA mole for Czechoslovakia, or Nilo Hernandez's efforts to collect information in south Florida for Cuba. (Halloran, 1985 [Szolka was a double agent for the FBI against the spy Otto Gilbert]; Raab, 1985 [Koecher]; Rosenberg, 2000 [Hernandez]). In a nation settled by immigrants, such as the United States, many citizens do have ties of birth or interest abroad; in professions such as intelligence collection and analysis it is those who can speak and read other languages and who have knowledge of the cultures and conditions of other countries that are most needed. The patterns in a group of 32 spies, a tiny subset of the millions of Americans who have had access to classified or sensitive information since 1950, does not cast doubt on the future reliability of citizens with foreign connections. These patterns do suggest that such citizens may be more likely than others to be targeted for recruitment attempts.

Unlike the other two groups, the majority of recruits by foreign intelligence services did not begin spying in the 1980s. Almost half of the volunteers started spying in the 1980s, and more than half (60%) of recruits by family or friends launched into espionage in the 1980s, but those recruited by an intelligence service began spying in roughly equal cohorts in each decade of the 1960s, 70s, 80s, and 90s. The decade in which their espionage ended was almost as varied for these recruits, with most of them being apprehended in the 1960s, 1980s, and 1990s. Whatever was prompting the wave of espionage in the 1980s in the United States, it does not seem to have shaped the recruitment efforts of foreign intelligence, largely by the Soviet Union is this period, which kept up a steady pressure and enjoyed a certain number of "successes" and failures among American citizens in each decade.

Most individuals in this group (40%) received prison sentences in the middle range of 5 to 20 years; half of the rest received less time, half received more. Like the other two groups, money motivated these recruits as well: it motivated half of those with a single motive and was one of several motives for 10 of the 11 with multiple motives. Divided loyalties and coercion (often based on foreign attachments) were somewhat more likely to motivate individuals in this group. Two-fifths of those with a single motive spied for divided loyalties or coercion, and 8 of the 11 persons with multiple motives included divided loyalties or coercion among their motives.

Comparison of Motivations

In considering the elusive issue of motivation for espionage, distinctions were made if an individual appeared to have had a single motive or multiple motives. If a person had more than one motive, we tried to determine which was primary and to rank them in importance. Given the public, usually journalistic sources of this information, and the notorious fact that self-described motives shift when viewed in retrospect by an offender, we cannot claim as much certainty as we would like about the motives for espionage attributed to any particular case. Available information about why these 150 American citizens committed espionage was analyzed, and we describe patterns and trends in the data.

Table 10
Motivations (n=237)

Motivations	Sole Motive		Primary among Multiple Motives		Combined Sole and Primary Motives		Secondary Motives ^a	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Money	47	56	37	56	84	56	20	23
Divided loyalties	13	16	12	18	25	17	8	9
Disgruntlement	11	13	9	13	20	13	22	25
Ingratiation	7	8	7	11	14	10	12	14
Coercion	4	5	1	2	5	3	3	3
Thrills	2	2			2	1	16	19
Recognition	0		0		0		6	7
Total	84	100	66	100	150	100	87	100

^a Based on information available in open sources, 72 individuals had 2 motives and 15 of those had 3 motives; of the 150 persons in the database, 48% had two or more motives.

Money

The summary of motivations in Table 10 reinforces what was noted in the previous sections comparing various groups: that American spies have claimed that money has been their prime motive for espionage. The primacy of money as a motive is already a common observation in studies of espionage. For 84 of the individuals in the database with a single motive, 47 of them (56%) spied for money. Among those with multiple motives, money was the primary motive in 37 of 66 cases; adding these strongest money motives together gives 84 of the 150 cases, or 56%, motivated by money. An additional 20 cases included money as a secondary motive in cases with more than one motivation. Considered as a proportion of all the cases in which money appeared as one or more of the motives, 104 of 150 cases (69%) included money,

However, the quest for money varied among the groups we compared. Among those who were intercepted before they could pass information, 87% of their motives (34 of 39) were money if sole, primary, or secondary motives are considered together. Among those who transmitted information, the combined total of money motives was 63% (70 of 111). Fifty-eight percent (45 of 77) of all the motives of civilian offenders were money, but money comprised four-fifths of the motives of military spies (59 of 73). On the other hand, between volunteers and those recruited into espionage, money accounted for similar proportions of the motives of each group: i.e., about 70%.

If we only consider those spies whose single motive was money, perhaps the most mercenary of the cases, the differences among groups are more pronounced: four-fifths of those who were intercepted only sought money, while half of those who transmitted information did so solely for money. One-quarter of the civilian offenders spied for the money alone, but three-quarters of the military spies did so. Almost three-fifths of volunteers committed espionage only for money, but just half of those recruited into espionage, whether by family or friends or by a foreign intelligence service, did so only for the money. These patterns suggest a generalization: underpaid people (or those who merely perceive themselves to be underpaid), often those in lower ranks of the military, who have access to information that others will pay for, may well try to cash in on this asset, but the odds are that they can be intercepted.

Some people spied for money because they needed it to pay off debts or to get themselves out of some other fix, while others did so from greed. We coded "need or greed" variables and the type of financial pressures or luxury purchases reported for our cases where these details were available. Data are missing in many of these cases, but of the 84 cases in which money was either the sole or the primary motive, we have some data on 64 of them.

Half of these cases involved indebtedness. Being in debt or having a history of insolvency, bankruptcy, or late payments is a major component of the "financial considerations" scrutinized in a background investigation for a security clearance; finances comprise one the 13 *Adjudicative Guidelines* that apply (DSS, 2001). The first FBI agent indicted for espionage, Richard Miller, was an example of someone whose debts led him into espionage. Picked up in 1984 by a Russian couple who were KGB talent spotters, Miller was struggling to keep up the mortgage payments on the house where he lived with his wife and eight children. He used his access as an FBI counterintelligence officer to pass classified documents to his handlers in

exchange for \$50,000 in gold, additional sums in cash, and the sexual favors of the female agent. For his espionage Miller served 13 years in prison (Deutsch, 1985).

Similarly, to extricate himself from his debts, Airman Bruce Ott contacted the Soviet consulate in San Francisco in 1986 with an offer to sell various classified documents. He tried to pass documents that included the tactical doctrine manual for a reconnaissance aircraft, to FBI agents he thought were Soviets. According to a friend, Ott was "a spendthrift who bounced checks, overused his credit cards, had his car repossessed, and was in such financial trouble on his honeymoon that his wife footed the entire bill" (Kell, 1986). At his trial, his lawyer described Ott as someone who "...desperately turned to spying in an attempt to release himself from debt pressures." Ott was sentenced by a court martial to 25 years in prison (Rafalko, n.d.).

One-fifth of the 64 cases in which the type of money motive is known involved greed. Ronald Hoffman was an example of industrial espionage in which greed led to his compromise of classified information. Hoffman worked as a rocket scientist for Science Applications, Inc. in Los Angeles through the 1980s, where he helped develop computer programs that analyzed the contrails of rockets to determine how they would affect satellites. He complained that his employer never paid him what he felt he was worth. In 1986 he started his own company, Plume Technologies, on the side and began to market versions of classified research to various Japanese companies. He received over \$600,000 from these companies. Hoffman was convicted of illegal export of technology that had classified military application. He was sentenced to 2 years and 6 months in prison and fined \$250,000 (U.S.A v. Hoffman, 1994).

A military example of espionage for greed was Air Force Sergeant Herbert Boeckenhaupt, arrested for espionage in 1967. For 4 years starting in 1963, Boeckenhaupt communicated cryptographic data including code cards to his Soviet handler. The KGB trained him to write on pressure sensitive paper, produce filmstrips, and service dead drops. He bought a series of vehicles with his money, favoring Avanti sports cars. Driving his flashy cars, he also illustrated the tendency of people who spy for money to spend it in noticeable ways. Half of the 84 spies for whom money was the sole or primary motive bought expensive items that seemed beyond their means: 6 bought new homes that they could not afford on their incomes, 14 bought new vehicles, and 20 spent money lavishly enough on other things that it was noticed by others around them (Rafalko, n.d.).

Even if an individual begins to spy from one motive, such as an ideological commitment or a desire to get revenge, having money is so convenient and so pleasurable that it becomes addictive. Foreign intelligence services know this well, which is why agent handlers urge their operatives to induce new spies to take money as soon as possible, even if at first the fledgling spy professes not to care about money (Romerstein & Levchenko, 1989; Askilenko, 2001). One long-running instance of money sustaining other initial motives was the Chinese Communist recruitment of Larry Wu-tai Chin. When still an idealistic college student in the 1940s in China, it appears he began to work for the Communists. After his recruitment he worked for the U.S. Army in wartime China; then in 1952 he joined the CIA and worked at Langley, Virginia. He became a naturalized U.S. citizen in 1965. He smuggled secret and top-secret documents out of the agency for years and flew to various cities around the world to hand it off to Chinese couriers. Chin supplemented his CIA salary with the payments for his espionage, and by

investing them in real estate parlayed them into a fortune. Convicted in February 1986, Chin committed suicide in his cell a few weeks later before he could be debriefed or sentenced (Marcus, 1985; Murphy, 1986). Seventeen individuals in the database admitted that their initial motives shifted as their espionage progressed, so that it became money that kept them at it.

Divided Loyalties

Roughly one-fifth of the individuals in the database had divided loyalties⁷ as one of their motives for espionage. It was the sole motive in 16% of the cases, and primary among multiple motives in another 18%. We have defined divided loyalties broadly, however, to include not only the typical Communist ideologue such as Karl Koecher or Kurt Stand, but individuals with intellectual or emotional commitments to another country through cultural affinity as well, such as Mrs. "Ahadi" who spied for Egypt after the attacks on that country by Israel in the Yom Kippur War; Thomas Dolce who offered information to South African intelligence; Joseph Santos' recent attempts to spy for Cuba as part of a loosely organized ring of Cuban agents; Douglas Tsou who wrote to Taiwanese officials offering to help by sending them classified information; or Robert Kim who sent documents to a South Korean naval attache. (Crawford, D.J., 1988 [Ahadi]; Valentine, 1988; Kidwell, 2000 [Santos]; Zook, 1991 [Tsou]; Masters 1997b [Kim]). As one would expect, in more than half of these instances of a motive involving a competing allegiance, the person volunteered to spy (18 of 33 cases), and 11 other individuals, one-third of the cases, were recruited by foreign intelligence. Most American spies with divided loyalties, 27 out of 33, were civilians. Most spies whose motives included divided loyalties also "succeeded" at espionage by passing information; only two, Otto Gilbert and Charles Anzalone, were intercepted in their attempts (Halloran, 1985 [Gilbert]; Tessler, 1991a [Anzalone]).

Disgruntlement

This motive for espionage usually refers back to the workplace, where disappointment, anger, frustration, or alienation can arise from interactions among co-workers or between employees and supervisors. Overall, disgruntlement motivated 13% of those in the database with single motives and it was the primary among multiple motives in another 13% of the cases. Roughly similar levels of disgruntlement are apparent among our comparison groups: disgruntlement motivated between 8 and 15% of the intercepted as well as those who transmitted information. Civilian and military cases show disgruntlement at these levels as well. Only those who volunteered to commit espionage showed more disgruntlement. Eighteen percent of volunteers with a single motive were disgruntled, but among volunteers with multiple motives, 65% of their motives included disgruntlement (28 of 43).

Feelings of disgruntlement often lead to efforts to get revenge, and espionage can be seen as one way to get back at the offending individual, organization, or at the whole government they represent. Examples include a former Air Force Sergeant, Allen John Davies, who was separated from active military service for poor performance in 1984 and who then went to work for Ford Aerospace in Palo Alto, California. Two years later he contacted the Soviet consulate in San

⁷ In the report published in 1992 the motive was termed "ideology," and referred to commitment to a competing political or economic system such as Communism. As more cases since 1992 involve commitment to a competing national or ethnic loyalty, the conception of this motive was broadened to encompass various divided loyalties.

Francisco and offered to provide them with information on U.S. Air Force reconnaissance. When arrested, he said he had acted "...out of revenge because of the unfair way he was treated while in the Air Force." He received a 5-year prison sentence in August 1987 for his attempted espionage (Thornton, 1986).

A more serious example was Earl Edwin Pitts, the second FBI counterintelligence agent arrested for espionage. From the New York FBI field office where he was assigned in July 1987, Pitts offered to supply the KGB with information. He met at least nine times with his Soviet handler, Alexandr Karpov, over the next five years and passed him Secret level documents, including a compilation of all Soviet agents in the United States known to the FBI. In 1992, upon the collapse of the Soviet Union, Pitts (like Robert Hanssen, his fellow-FBI spy) broke off contact with the Russians and continued in his FBI career, ironically moving into personnel security and security education. Karpov became a double agent for the FBI in the mid-1990s and fingered Pitts, and the FBI ran a sting operation to gather evidence against Pitts. He was sentenced to 27 years in prison by a judge who lectured him on his "egregious abuse of trust." To explain his motives for espionage, Pitts pointed to various grievances against the FBI, especially his disgruntlement with having been transferred in 1987 to the expensive New York field office where (again like Hanssen) he "...didn't have enough money to live comfortably" (Masters, 1997a).

Ingratiation

The desire to please someone else motivated seven individuals as their sole motive and another seven people as the primary of multiple motives. This was about 10% of the cases in the database. In 12 cases ingratiation was a secondary motive. Most of those who spied to help someone out "succeeded" in their spying; only 2 of the 14 cases failed to transmit information, both of them ineffectual members of the Michael Tobias conspiracy. Four among this group of 14 volunteered, and one was recruited by foreign intelligence, the hapless Clayton Lonetree, Marine sentry recruited by the KGB in Moscow through his Soviet girlfriend. In an example of espionage by ingratiation undertaken for foreign relatives, Ronald Humphrey, who worked for the U.S. Information Agency, in 1975 gave Top Secret state department documents to a Vietnamese friend who passed them on to the North Vietnamese delegation at the Paris peace talks. Humphrey was trying to get his common-law wife and her four children released from Vietnam where they had been trapped as the Vietnam War ended. Humphrey received 15 years in prison (Barker, 1996 [Lonetree]; Seaberry & Mansfield, 1978 [Humphrey]).

Coercion

Being forced to commit espionage was not a common pattern among individuals in the database. Four people were coerced by foreign intelligence into espionage as their sole motive, and for another individual coercion was the primary among multiple motives. For three others, coercion was a secondary motive. Four were the victims of blackmail, and one, Svetlana Tumanova, was forced to cooperate through threats against her relatives in the Soviet Union. Most of these instances date from the 1950s and 60s, the latest occurring in 1978.

Thrill Seeking and Ego-Boosting

Some individuals find espionage a thrilling enterprise, one that allows them to enact fantasies of secret lives and heroic deeds they have read about in spy novels. Often these are also persons who demonstrate their cleverness to themselves by secretly putting espionage over on others who have not recognized the spy's abilities. For 18 persons in the database, the thrill of espionage and the related ego-boost of getting away with something, was one of their motives for engaging in it, but it was the sole motive only for two.

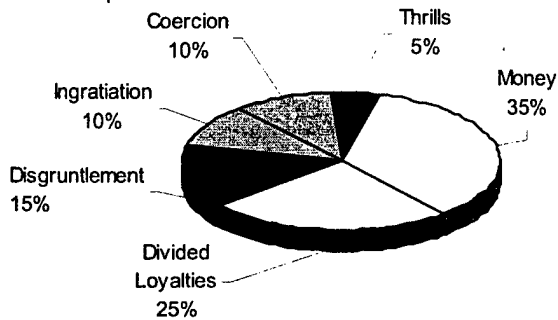
The most extreme example of this motivation was the case of Christopher Cooke, an Air Force lieutenant, who in June 1980 began contacting the Soviet embassy in Washington, D.C. offering to provide classified information. For almost a year Cooke continued to call and to visit the embassy, bringing photos of documents or handwritten notes of classified information. However, what he really wanted was for the Soviets to use the codenames, drop sites, and other spy tradecraft he proposed to them: for example, he wanted to be called "Scorpion." The embassy personnel evaluated Cooke as an unlikely prospect as a spy and repeatedly rebuffed him, and he grew frustrated with how difficult it seemed to be to interest the Soviets in his offers of espionage. Arrested and interviewed, Cooke admitted that espionage fascinated him and that the "thought of committing espionage was ever on my mind." To determine who else might be working with Cooke (it turned out no one was), investigators made offers of immunity from prosecution during the investigation, and despite later attempts to get around the immunity, an appeals court ruled that Cooke could not be prosecuted for his espionage. He simply resigned his commission in 1982 and returned to civilian life (Crawford, D.J, 1988; Getler, 1981; Green & Miller, 1982.)

Robert Hanssen, FBI spy arrested in February 2001, pled guilty and received a life sentence. His motivations are not yet clear to observers who have been struck by the apparent contradictions between his straight-laced private life, his counterintelligence profession, and his 20-year espionage career. The thrill of successfully maintaining a secret life parallel to his professional FBI career, and thereby demonstrating that his competence surpassed his colleagues, may turn out to be an important part of the explanation for Hanssen's motives, along with an early fascination with spying (Vise, 2002; Eggen, 2001b).

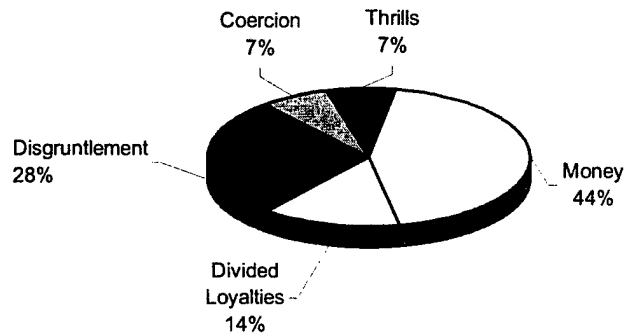
Recognition

Six persons in the database had secondary motives to achieve recognition, approval, or ego-enhancing attention from those to whom they provided information. While this was not a primary motive, it added to the constellation of reasons they decided to start spying. So, for example, Michael Peri, a 22-year-old Army electronics warfare specialist serving in Germany in 1989, suddenly gave in to an impulse to flee to East Germany with military secrets. He voluntarily returned after one week, explaining that he felt overworked and underappreciated in his job. When the attentions of the East Germans wore thin, Peri returned to face a 30-year sentence (Rafalko, n.d.).

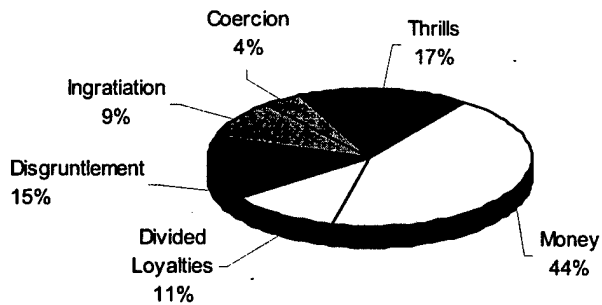
1950s: 20 Motives



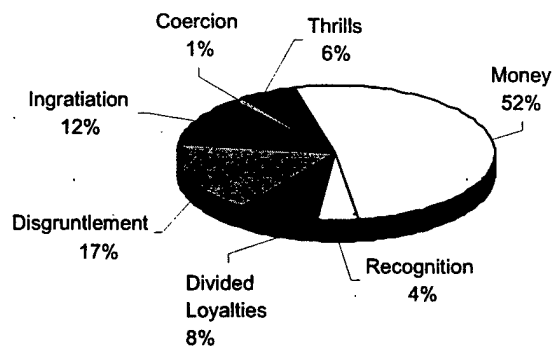
1960s: 29 Motives



1970s: 47 Motives



1980s: 106 Motives



1990s: 33 Motives

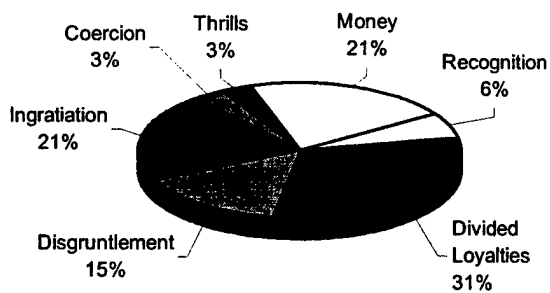


Figure 1 Motivations for Espionage

The preceding charts depict in graphic form changes in the incidence of all motives for espionage over the decades. They focus on motives when a person first made the decision to

commit espionage, not what kept the person spying or how his or her motives shifted with experience. We combined the few cases we included in the database that began in the late 1940s with those that began in the 1950s because they resembled in motives and issues those that date from the early Cold War. Among motives of individuals in this earliest group of cases, one-third of the motives were money and one-quarter were divided loyalties.

Among the cases from the 1960s money grew slightly in importance; divided loyalties shrank slightly; almost twice as many people, compared to the previous decade, cited disgruntlement as one their motives; and ingratiation temporarily disappeared as a motive. During the 1970s disgruntlement declined to 15% of all motives again, ingratiation reappeared, and thrill-seeking increased noticeably as a motive. Money and divided loyalties remained at about the same levels, with money still the most prominent motive cited.

In the 1980s divided loyalties continued its gradual downward trend over the past three decades, while money became even more important, constituting over half of the motives cited during the 1980s. Coercion shrank, while ingratiation increased slightly, and recognition appeared for the first time as a motive for espionage.

Motives in the 1990s shifted noticeably again. Money declined to half its proportion of total motives compared to the previous decade; ingratiation almost doubled; and divided loyalties increased almost fourfold. Since we include homeland ties in the category of divided loyalties as well as commitment to ideologies, this increase reflects the trend during the 1990s toward more international interaction and thus more foreign connections. Recognition continued as a minor motive and disgruntlement stayed at around 15% of the motives.

Comparison of Lone Spies, Pairs, and Groups

The 150 individuals in the espionage database were compared by whether they acted alone, in a pair, or in a group of three or more, to see if distinctive patterns characterized espionage among the three groups. Table 11 summarizes these findings.

Table 11
Comparison of Lone Spies, Pairs, and Groups of Spies

Characteristics	<i>Lone spies</i>		<i>Spies in pairs</i>		<i>Spies in groups</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Number (n = 150)	86	57	39	26	25	17
Gender (n = 150)						
Male	85	99	32	82	22	88
Female	1	1	7	18	3	12
Volunteer or recruit (n = 148)						
Volunteer	62	74	22	56	10	40
Recruit	22	26	17	44	15	60
Intercepted or passed information (n = 150)						
Intercepted	27	31	7	18	5	20
Passed information	59	69	32	82	20	80

Civilian or military (n = 150)							
Civilian	41	48	24	62	12	48	
Military	45	52	15	38	13	52	
Source of recruitment (n = 54)							
Foreign Intelligence	20	91	7	41	5	33	
Family			4	24	2	13	
Friend	2	9	6	35	8	54	
Length of espionage (n = 111)							
Less than 1 yr	23	39	6	18	1	5	
1 to 4.9 yrs	20	34	19	60	10	50	
5 or more yrs	16	27	7	22	9	45	
Length of sentence (n = 129)							
.1 to 4.9 yrs	17	24	6	18	5	20	
5 to 9.9 yrs	16	22	9	28	4	16	
10 to 19.9 yrs	14	20	6	18	7	28	
20 to 29.9 yrs	6	8	4	12	4	16	
30 to 40.0 yrs	9	13	4	12	1	4	
life in prison	9	13	4	12	4	16	
Location espionage began (n = 147)							
East Coast of U.S.	29	35	19	33	10	36	
Outside the U.S.	28	33	13	33	9	36	
West Coast of U.S.	13	16	5	13	4	16	
Other U.S. locations	13	16	2	5	2	8	
Motivation (n = 237)							
Single motive: 51% (n= 44 individuals)			Single motive: 64% (n=25 individuals)			Single motive: 60% (n=15 individuals)	
Money 24			Money 13			Money 10	
Divided loyalties 6			Divided loyalties 4			Divided loyalties 3	
Disgruntlement 7			Disgruntlement 3			Disgruntlement 1	
Thrills 2			Ingratiation 5			Ingratiation 1	
Ingratiation 1			Thrills 0			Thrills 0	
Coercion 4			Coercion 0			Coercion 0	
Multiple motives: 49% (n=42 individuals)			Multiple motives: 36% (n=14 individuals)			Multiple motives: 40% (n=10 individuals)	
Money 35			Money 12			Money 10	
Divided loyalties 13			Divided loyalties 3			Divided loyalties 4	
Disgruntlement 26			Disgruntlement 4			Disgruntlement 1	
Thrills 9			Thrills 5			Thrills 2	
Ingratiation 8			Ingratiation 7			Ingratiation 4	
Coercion 2			Coercion 1			Coercion 1	
Recognition 4			Recognition 2			Recognition 0	

Lone Spies

More than half of the individuals in the database (57%) acted alone. All except one of these 86 spies were male, most (74%) volunteered to commit espionage, and almost one-third of them were intercepted on the first attempt. This record suggests that espionage by lone spies is a high-risk gamble. Of those that did pass information, two-fifths spied for less than one year

before they were caught; another third spied for between 1 and 5 years, and slightly more than a fourth (27%) had espionage careers of more than 5 years.

Table 12
Spy Pairs

Each of the following 12 spy pairs is included in the espionage database:

Ames, Aldrich and	Ames, Rosario
Baynes, Virginia and	Brown, Joseph
Boyce, Christopher and	Lee, Andrew
Brown, Russell and	Wilmoth, James
Graf, Ronald and	King, Donald
Haeger, John and	Schoof, Charles
Harper, James and	Schuler, Ruby
Harris, Ulysses and	Safford, Leonard
Johnson, Robert and	Mintkenbaugh, James
Martin, William and	Mitchell, Bernon
Pollard, Jonathan and	Pollard, Anne
Ponger, Kurt and	Verber, Otto

The following 15 individuals are included in the database as part of a pair, but their partners are not included, either because the partner was not indicted for the espionage or because the partner was a foreign national.

Ahadi (pseudonym)	
Cascio, Guiseppe	Jones, Geneva
Dedeyan, Sahag	Koecher, Karl
Dubberstein, Waldo	Kota, Subrahmanyam
Faget, Mariano	Payne, Leslie
Garcia, Wilfredo	Petersen, Joseph
Hall, James	Scranage, Sharon
Humphrey, Ronald	Wine, Edward

Of the 22 lone spies who were recruited into espionage, 20 were recruited by a foreign intelligence service, while friends recruited the other two. One-fourth of lone spies received sentences of less than 5 years, which reflects the relatively high number of persons who were intercepted among this group, as does the fact that this group includes 14 of the 20 persons who did not receive prison sentences for espionage because they were discharged, granted immunity, committed suicide, or defected. As has been noted among all the various groupings we have considered, most lone spies were motivated to risk espionage for money. Distinctive among the motives of lone spies was a higher proportion of disgruntlement and thrill-seeking.

Spies in Pairs

As shown in Table 12, thirty-nine individuals acted as one of a pair in their espionage. Of this group, 24 had partners who were American citizens and therefore both members of the pair are in the espionage database; 15 worked with partners who were not indicted for espionage or who were not American citizens. Foreign partners are not in the database as case records, although usually their names are identified. Pairs engaged in various patterns of

interaction: 16 of these individuals served as ringleaders, 13 were equal partners with their compatriots, 8 were active accomplices who participated in the espionage but did not initiate it, and 2 were passive accomplices who benefited or knew about their spouse's spying but did not actively participate.

Among the 39 individuals with partners, 7 were women, making up 17% of pairs. Most

of the women in the database, 7 of the 11 women, worked as part of a pair. Slightly more than

Table 13
Groups of Spies

The Conrad ring

Clyde Conrad, ringleader
Zoltan Szabo
Roderick Ramsay
Jeffrey Rondeau
Jeffrey Gregory
Tomas Mortati
Kelly Warren

The Walker ring

John Walker, Jr., ringleader
Jerry Whitworth
Arthur Walker
Michael Walker

The Stand ring

Kurt Stand, ringleader
Theresa Squillacote
James Clark

The Tobias/Pizzo ring

Michael Tobias and
Francis Pizzo, ringleaders
Bruce Tobias
Dale Irene

The "Red Avispa" ring

[A Cuban national, ringleader]
Joseph Santos
Alejandro Alonso
Linda Hernandez
Nilo Hernandez

The Mira ring

Francis Mira, ringleader
[2 West German nationals]

The Lipka ring

Robert Lipka, ringleader
[3 Soviet nationals]

The Slatten ring

Charles Slatten, ringleader
[1 foreign national, 1
unindicted co-conspirator]

half of the pairs, 56%, volunteered to commit espionage. Four-fifths of those in pairs did pass information, a higher "success" rate than for lone spies, reflecting the support a partner provides. More civilians than military spied with partners (62%), while for lone spies as well as for spies in groups, this pattern was reversed, since slightly more than half of each group were members of the military.

Among the 18 individuals who worked with partners and who were recruited, 10 were recruited by a person close to them, either a family member or a friend, as one might expect in a proposed partnership, while 8 were recruited by a foreign intelligence service. Money motivated the majority of these spies, but ingratiation was a more prominent motive for pairs than it was for either lone spies or groups: among pairs, 5 of the 25 persons who had a single motive committed espionage to ingratiate themselves with the partner, and ingratiation was one of the motives among 7 of the 14 with multiple motives. Espionage by pairs persisted somewhat longer than it did for the spies who worked alone: three-fifths of those who had a partner spied between 1 and 5 years, and another fifth spied for more than 5 years. Those with partners also received slightly longer prison sentences than did lone spies, with the largest proportion of pairs sentenced to between 5 and 10 years.

Spies in Groups

Twenty-five individuals committed espionage as part of a group of three or more persons. In four of these groups (Lipka, Mira, Slatten, and the Cuban "Red Avispa"), an American citizen worked with others who were not Americans and who therefore are not in the espionage database. Table 13 lists the groups of spies.

Groups organized themselves in various configurations, but usually one person took initiative or exerted influence over the others and became the ringleader. Eight of the 25 have been identified as ringleaders; 14 others were accomplices actively involved in the conspiracy to commit espionage, and three (Irene, Mortati, and Bruce Tobias) served as passive

accomplices who knowingly cooperated in the scheme.

Most of the spies in groups were male, 22 of 25 individuals. Reflecting a higher proportion of accomplices recruited into groups, three-fifths were recruits compared to two-fifths

who volunteered. Groups achieved the high “success” rate at espionage that pairs did, with four-fifths of each cohort transmitting information. Naturalized citizenship was not a distinguishing characteristic of any of the three groups; roughly four-fifths of lone spies, pairs and groups were native born citizens while one-fifth of each had been naturalized. Of the 17 individuals recruited into a group, a friend brought more than half into espionage.

Groups proved even more long-lasting at espionage than did pairs: 45% of spies in

<i>Name</i>	<i>Date Began Espionage</i>	<i>Type of Involvement</i>
Ahadi [a pseudonym]	1967	active accomplice
Tumanova, Svetlana	1978	acted alone
Schuler, Ruby	1979	active accomplice
Squillacote, Theresa	1980	active accomplice
Scranage, Sharon	1983	active accomplice
Pollard, Anne	1985	passive accomplice
Warren, Kelly	1986	active accomplice
Baynes, Virginia	1990	active accomplice
Jones, Geneva	1991	active accomplice
Ames, Rosario	1992	passive accomplice
Hernandez, Linda	1994	active accomplice

groups persisted for more than 5 years (compared to 22% of those in pairs), half of those in groups spied for between 1 and 5 years (while 60% of pairs lasted that long), and only 5% of those in groups were caught in less than one year (compared to 18% of those in pairs and 39% of lone spies). Spies in groups also received the longest prison sentences, although the difference between the three groups is

not large. Money was the stated motivation for most of the spies in groups.

Espionage by American Women

Table 14 lists the 11 American women in the espionage database. Only one of them, Svetlana Tumanova, committed espionage alone. According to the U.S. Army, she was coerced into it in West Germany by the KGB, which threatened her family living in the USSR. The other ten women spied as the accomplices of men, 7 in pairs and 3 in groups. Maria del Rosario Ames and Anne Henderson Pollard were married to spies and were accused of knowingly profiting from or having participated in a peripheral way in their crime (Miller & Pincus, 1994).⁸ Six of the women stole documents for collaborators who instigated the espionage schemes: Mrs. “Ahadi,” Schuler, Scranage, Warren, Baynes, and Jones. (Crawford, 1988 [“Ahadi”]; Witt, 1985 [Schuler]; Murphy, 1985 [Scranage]; Walters, 1997 [Warren]; O’Harrow, Jr., 1992 [Baynes]; Cummings, 1994b [Jones]). Only Hernandez and Squillacote worked as partners rather than as subordinates

⁸ The legal outcome for women married to spies varies widely depending on how complicit in the crime the women were and on the goals of the prosecutor. Based on what can be learned from open sources, some women, like Anne Pollard, were prosecuted and sent to prison for their involvement (in Pollard’s case, for receiving embezzled government property—documents—and for being an accessory after the fact of possession of classified documents), while others such as Hana Koecher were offered immunity from prosecution. This despite evidence that she had been a trained and participating intelligence agent along with her husband Karl. Other wives who knew about their spouse’s espionage and delayed telling the authorities for years, such as Barbara Walker, were not prosecuted. Barbara Walker escaped all charges after she eventually went to the FBI in spite of her history of accompanying her husband to dead drops.

(Rosenberg, 2000 [Hernandez]; Masters, 1998a). None of the 11 women was intercepted, which is not surprising since all but one enjoyed the advice, support, and guidance of their partners or recruiters. Taking the initiative in spying was not these women's pattern.

Women spies demonstrate few distinctive biographical or employment patterns. They range across most variables in ways similar to their male counterparts, including their age when espionage began, the agency owning the information, the decade and location they began, payment, and sentence. In motive and in the proportion of volunteers or recruits, however, they do they differ from men. Among the seven women with a single motive, only one spied solely for money. Three did so for divided loyalties, two to ingratiate themselves with their partners, and one, Tumanova, from coercion. For the four with multiple motives, money was one of the motives for three of them, but for two of them ingratiation was also a motive. The greater role of ingratiation for women is supported by the higher proportion of women recruited by those close to them as opposed to women volunteers or women recruited by an intelligence service: 7 of the 11 women were recruited either by friends or lovers (Baynes, Scranage, Squillacote, Schuler, and Warren), or by husbands (Ames, Pollard); three women volunteered (Mrs. "Ahadi," Hernandez, and Jones).

One of the more damaging cases of espionage by women was Ruby Louise Schuler's personally disastrous affair with James Durwood Harper starting in 1979. Harper recognized Schuler's vulnerability and made the most of it. She had reached at a low point in her life, as a divorced alcoholic bitter about her treatment at work. She seized the bargain Harper offered. She would let him into her boss's office on evenings and weekends to photocopy Secret documents from the safe; Harper would take care of her and marry her to prevent their having to testify against each other. As an executive secretary for the director of Systems Control, Inc., Schuler could give her lover access to the sensitive projects and plans of a respected Silicon Valley defense contractor, which Harper sold to Polish intelligence for at least \$250,000. As her alcoholism worsened with her apprehension, Schuler went on sick leave in 1982, losing her access to the safe. Harper then coldly ignored his "wife" and began seeing another woman; Schuler drank herself to death 3 months before Harper was arrested for their espionage (Witt, 1985).

Sharon Scranage, a CIA clerk on an overseas tour of duty in Ghana, fell into a different "honey trap" when she began an affair with Michael Soussoudis, an undercover intelligence agent and a cousin of the ruler of Ghana. Scranage gave her lover the names of CIA agents in Ghana and passed agency cables to him, including details of a coup planned by dissidents in Ghana, until her arrest for espionage in July 1985 (Murphy, 1985).

Kelly Church Warren, the only female military spy, joined the Clyde Conrad spy ring while serving as an Army clerk for the 8th Infantry Division in West Germany in the mid-1980s. She agreed to be one of Conrad's paid accomplices after his retirement from the Army removed his profitable access to classified documents and he began to recruit paid sources. Warren agreed to let Conrad copy and sell the 8th Infantry's counterattack plans in case of a Soviet invasion of Europe. Conrad sold the plans to the Hungarian intelligence service, which passed them to the Soviets. For this betrayal Warren received a 25-year prison sentence (Walters, 1997; Reuters, 1999).

Applications to the Personnel Security System

As demonstrated in the numerous examples discussed herein, espionage is one of the ultimate failures of a personnel security system designed to ensure security. In the following sections these findings on espionage are applied to various aspects of the personnel security system. First, we consider the criteria for personnel security vetting that are expressed in the federal *Adjudicative Guidelines* and ask the question: Among spies who, by definition, are violators of the national trust, how common were the behaviors that are assumed to indicate potential untrustworthiness? Second, we discuss applications for the security clearance system in the patterns in espionage and suggest ways to shift the emphases of scrutiny to groups more vulnerable to temptations to spy. Thirdly, we consider security awareness issues in light of our findings, especially co-worker reporting and position vulnerability assessment.

Violations of Personnel Security Standards

Many of the individuals in the espionage database engaged in behaviors that violated the criteria for being granted an initial security clearance and for maintaining that clearance and access eligibility. These criteria are defined in Department of Defense Regulation 5200.2R (Personnel Security Program Regulation, Jan. 1987 as amended), in Executive Order 12968 approved in 1995 and implemented in 1997 as *Adjudicative Guidelines for Determining Eligibility for Access to Classified Information*, and endorsed by the Director of Central Intelligence Directive No. 6/4 ("Personnel Security Standards and Procedures Governing Eligibility for Access to Sensitive Compartmental Information," July 1998). As mandated in these regulations and directives, there are 13 guidelines that personnel security adjudicators must consider before granting a security clearance to any civilian or military employee or contractor across any agency of the federal government. The guidelines define issues of concern that raise questions about a person's reliability and judgment to be entrusted with classified information. The 13 guidelines cover:

- Alcohol Consumption
- Allegiance to the United States
- Criminal Conduct
- Drug Involvement
- Emotional, Mental and Personality Disorders
- Financial Considerations
- Foreign Influence
- Foreign Preference
- Misuse of Information Technology Systems
- Outside Activities
- Personal Conduct
- Security Violations
- Sexual Behavior

Among the 150 individuals in the espionage database, 80% were observed to exhibit one

or more of the behaviors or conditions that could violate the criteria in the *Adjudicative Guidelines*. This would seem to support a nexus between these personnel security standards and the eventual resort to a betrayal of trust in espionage. However, these observations are drawn from coverage of incidents of espionage in the public media over a 50-year period. We cannot determine the extent to which a high rate of questionable behaviors among these 150 persons, and whether the behaviors were so serious they could not have been mitigated, differ from the rate and seriousness of such behaviors found in the broader cleared population, or in the population at large, at the various points in time when incidents of spying occurred. As we know from investigations done to evaluate continuing access to classified information, some cleared personnel do indulge in various questionable behaviors, yet few commit espionage. Indulgence in one or more of these behaviors while enjoying the access of a security clearance does not predict that a person will commit espionage, but it does call into question the person's judgment and reliability; such indulgence is "security-relevant."

We coded instances of potential violations of personnel security criteria in these 150 espionage cases, but lack of full information about our cases prevents our claiming that because a security-relevant behavior is not mentioned in our sources that it was not present. Serious espionage cases earn intense media scrutiny and provide many personal details about the suspect; the media treatment of obscure cases provides very few details. Data in this area are inevitably incomplete and underreport the incidence of problem behaviors. The data in Table 15 demonstrate that many spies also did violate the criteria for security-relevant behaviors and conditions outlined in the *Adjudicative Guidelines*.

Table 15
Examples of Potential Issues of Security Concern ^a (n=150)

Security-Relevant Issues	Yes		No or Unknown	
	n	%	n	%
Foreign attachments	66	44	84	56
Debts that generated willingness to sell data	58	39	92	61
Illegal drug use	40	27	110	73
Immoderate alcohol use	40	27	110	73
Allegiance to a country or cause other than the U.S.	30	20	120	80
Increased spending inconsistent with known income level	27	18	123	82
Gambling	13	9	137	91
Criminal acts against property or persons, or both	11	7	139	93

^a On these variables, which were coded "yes," "no," or "unknown," unknown was combined with no; typically this type of information is not mentioned in the sources unless the behaviors had direct relevance to the espionage case, so not having been mentioned, or unknown, does not assure us the behavior was absent (n=150).

In some instances these problem behaviors related directly to an individual's espionage. Jonathan Pollard was an example of someone who spied in part because of his commitment to another nation's welfare. He grew up in a family that worried openly about the survival of the state of Israel, which is not an uncommon concern among American Jewish households. "Jay's admiration for Israel was forged at home...His parents were committed supporters of Israel" (Galloway, 1989). These attitudes left a lasting imprint on Pollard, who later said, "Israel was

with me every waking moment ever since I can remember. The first flag I remember was the Israeli flag. It was the first flag I could identify." He favored stories of brave Israelis fighting for liberty and "grew up vowing to emigrate to Israel and become a hero himself" (Friedman, 1989). Many Americans wholeheartedly support Israel without becoming spies for the Israelis, but in Pollard's case, exposure to these views apparently did influence his decision in 1984 to use the access his position at the Naval Investigative Service gave him to sell highly classified information to the Israeli intelligence service.

A pattern of willingness to break the law was illustrated by those individuals in the database who, despite past criminal records, nevertheless gained security clearances that they used for espionage. One of the most damaging of American spies, John Walker, Jr., illustrated this pattern. When Walker entered the U.S. Navy in the 1960s, it was not unusual for teenaged delinquents to be offered the choice of military service or jail time. Walker chose the U.S. Navy. However, his youthful convictions for burglary accurately predicted his cavalier attitude toward the property of others. After a few years in the military as a Navy radar man, he began to steal and sell to the Soviets cryptographic key codes and other classified documents in his care, persisting in this profitable enterprise for 17 years (Isikoff, 1990).

Roderick Ramsay was a second example of a spy who had entered military service with a previous history of criminal behavior. The same year that he enlisted in the U.S. Army, he had already robbed a bank in Vermont and attempted to break into the safe of a hospital security office where he worked (Allen and Polmar, 1988). In 1983 he was sent to Germany, where he began spying for Clyde Lee Conrad as a part of the spy ring centered in the U.S. Army 8th Infantry Division. From Ramsay the Soviets purchased Top Secret NATO plans for the defense of Europe and the dispositions of NATO nuclear weapons, a stunning breach of security. He received 36 years in prison for his espionage (Ostrow & Jehl, 1990; Lewis, 1990; Herrington, 1999).

Our open sources identified 40 spies with alcohol problems and another 40 who used illegal drugs; 15 of these individuals, 37%, did both. Thus for roughly one-fourth of the cases in the database, indulgence in one or both kinds of substance abuse was obvious enough to be described in the press. It is likely that there were others who undertook their substance abuse with more discretion. For some spies drugs or alcohol were integral aspects of their espionage. Ramsay's drug habit, for example, created a need for cash that made working for Conrad's espionage operation attractive; Ramsay in turn paid two of his recruits, Jeffrey Rondeau and Jeffrey Gregory, largely in marijuana and hashish (Herrington, 1999). Andrew Daulton Lee's occupation before he began dabbling in espionage was dealing in drugs, and he used the money he got from spying with Christopher Boyce to further his drug business (Lindsey, 1979). Edward Lee Howard's history of drug use and his increasingly heavy alcohol abuse finally came to the attention of the CIA after he failed his polygraph test. Fired from his promised CIA career as a case officer in Moscow, Howard took revenge on the agency with espionage, then escaped FBI surveillance in 1985 and defected to the Soviet Union (Wise, 1988).

The Impact of Personal Problems

Clinical interview studies of espionage offenders have noted a pattern in which personal

disruptions or crises often precede an individual's decision to commit espionage, and have speculated that if help or timely intervention had been offered, the crime might have been averted (Wood & Fischer, 2002). We attempted to document this pattern in the cases in the espionage database by coding instances of various upsets and life crises if these occurred coincident to or shortly before an espionage attempt. These crises included the death or terminal illness of a close friend or member of the family, separation or divorce, lengthy physical separation from spouse, reported marital discord, a recent engagement or marriage, a new love relationship, an extramarital affair, or relocation. Coverage in press accounts of espionage of these personal episodes is probably even less systematic than are the behaviors targeted by the *Adjudicative Guidelines*, but if they were mentioned, these data were collected. We found that 41 of the 150 individuals (27%) had experienced one or more of these events in the months before attempting espionage. This could be evidence of a pattern, but we will need to tie these data to details in these cases to make the claim that disruptive life events can trigger decisions to spy. It is quite likely that many of the 109 persons for whom such incidents were not recorded also experienced such events, since in a given 8-month period, most people do face unexpected ups and downs in life that could provoke disastrous decisions.

For some individuals with access to valuable information, these personal crises seem to precipitate their decision to spy, or more likely, they were part of a confluence of factors. Looking back, some described their experience in terms that highlighted their emotional fragility and reduced ability to make reasonable decisions. Jeffrey Carney, for example, struggled with distress after he came to realize his homosexuality while serving as a sergeant in the U.S. Air Force. Carney was stationed in Berlin in 1983 and held SCI access. Although he did not dare to talk openly about his homosexuality, he wanted his co-workers to know how unhappy and alienated he felt in a setting he knew was disdainful toward his sexual orientation. He is quoted as confiding to friends, "I have problems. I hurt. I don't want to be here, and I don't know if I'm going to hurt myself or not." He told his supervisors he did not want the responsibility of access to classified information, saying "I don't want this job anymore. You need to take my clearance." Instead of pulling the clearance of someone it would not be easy to replace, his supervisors recommended psychiatric counseling for him, but that did not help. Carney began crossing the Berlin wall and spending time with East German agents—who were careful to show him the caring acceptance and involvement he craved. He returned to his Air Force job to help these new friends, and for the next 6 years they collected highly classified information from him ("Turning a Blind Eye to Spies," 1994).

When Thomas Cavanagh's life seemed to be falling apart in 1984, he turned to espionage as a way out of the box he felt trapped in. An engineer for Northrop Corporation with access to classified documents on Stealth technology, Cavanagh's marriage failed and the financial consequences hit him with demands he could not meet; his debts mounted. The 5-year periodic reinvestigation for his security clearance was coming up soon and he feared that when investigators found out about his debts, the government would revoke his clearance and he would lose his job and his income. To keep his classified access and his job, and not thinking very clearly, Cavanagh tried to prevent one imagined chain of disasters by initiating another; he offered to sell classified documents to the Soviets. Intercepted by the FBI and convicted of espionage in 1984, Cavanagh was sentenced to two life terms in prison (Winokur, 1987; Dawson, 1985).

Potential Improvements to the Personnel Security System

In response to the national outcry over the spate of espionage cases in the 1980s, the Defense Department reduced the number of persons holding security clearances from a high of 4.3 million in 1985 to 2.1 million as of 2000. Over the past 15 years, repeated commissions and panels have identified improvements needed in the system and have recommended changes, and numerous changes have been adopted (Personnel Security Investigations Process Review Team, 2000). After the collapse of the Soviet Union in 1991, cutbacks in federal staff and snags in the introduction of a new computer system at the Defense Security Service generated a daunting backlog in background investigations in the Department of Defense. Efforts to decide how to solve the backlog crisis have focused attention on what remains to be done to improve the personnel security system. This study of espionage holds implications for these efforts.

Clearance Granting Procedures

Initial vetting is the first filter the system puts in place to identify and disqualify persons who do not meet the criteria for a security clearance. Our data on espionage indicate that initial vetting is indeed necessary, particularly for certain subgroups from which persons likely to attempt espionage come, such as young military personnel. It is important that young military applicants continue to be carefully evaluated on all the criteria listed in the DoD regulation 5200.2R and the Director of Central Intelligence Directive 6/4. This is especially true for financial criteria: research indicates that personal finances are a constant problem among junior military personnel and, as patterns in the findings from the espionage database show, debt, greed, and financial mismanagement in a youthful population create serious temptations for those with security clearances (Tiemeyer, Wardynski, & Buddin, 1999; Luther, Garman, et al., 1997).

Currently the system devotes many of its resources to screening for initial clearances in an effort to eliminate persons who might be risks for security violation. Trustworthy and reliable personnel make good employees, and initial screening provides an ancillary benefit in that it vets for employment suitability at the same time it gauges potential security risk. As we noted above in our discussion about those spies whom we know in retrospect also may have violated the criteria in the *Adjudicative Guidelines* before or during their espionage, those criteria define issues of security relevance in general, not a narrow focus on preventing espionage. With a few exceptions, most people do not apply for a security clearance intending to spy; they come to that decision later based on opportunity, need, and their life circumstances at the time. A better allocation of the personnel security system's resources for countering espionage would expend more of them on periodic reevaluation of cleared individuals and on continuous monitoring. Putting more resources into ongoing monitoring recognizes the lesson espionage cases typically teach, which is that people change, and actions that would have been unthinkable at one time or in one context become attractive, even inevitable, in another.

Our findings demonstrate that risk of losing the most critical information to espionage comes not from young low-ranking individuals, but from those who have held positions of trust for some years. These more damaging and "successful" spies are generally older, better educated, married, more often recruited into espionage, with longer-term employment histories and, if military, are senior enlisted personnel. Despite the risk these trusted people represent, the

personnel security system invests most heavily in vetting initial applicants, rather than in the continuing assessment that would screen for the higher-risk offender. Research on continuing evaluation programs in the military services (Bosshardt, DuBois, & Crawford, 1991) has shown that continuing assessment programs are moderately effective, but would be improved by better monitoring mechanisms, random reinvestigations instead of predictable ones, and targeting resources on those exposed to high-risk information. Over the decade since this major research on continuing assessment was done, one line of attempted improvement has been identifying cleared individuals with significant personal problems and offering them help through Employee Assistance Programs as a means of reducing the probability that they will resort to espionage (Wood & Fischer, 2002).

A program called the Automated Continuing Evaluation System (ACES), under development at the Defense Personnel Security Research Center, promises to improve continuing assessment of cleared personnel by structuring a better monitoring mechanism. Whereas the present system requires full-scale reinvestigations for all personnel holding high-level clearances who have not been investigated for 5 years, under ACES computerized security-related information (e.g., criminal history, foreign travel, and credit database files) would be checked for each cleared person on an on-going basis. Full-scale reinvestigations in individual cases could be triggered at any time based upon the results of the electronic checks, or if monitoring showed no need, they might never be initiated. Findings indicate that once implemented, ACES is likely to detect some serious issue cases (persons whose records include potential violations of the standards in the *Adjudicative Guidelines*) that are being missed with the current system of regular 5-year reinvestigations, because individuals quit before their periodic reinvestigations are initiated. Consequently, ACES may detect more serious issue cases than the present system, and it may detect them sooner and at less cost than the current periodic reinvestigation approach (Timm, 2001).

Another finding with implications for the personnel security system is that a number of people continued or actually began espionage after leaving the job that provided them access. While it would be difficult to track or monitor individuals once they leave a job or an agency, at least the type of automated financial checks that ACES will provide could be conducted, with the individual's permission, for some period after an individual leaves employment, especially for those who have had access to highly sensitive information. Continued monitoring of financial and travel histories for a given period after individuals leave sensitive positions, for example, could pinpoint unexplained affluence from a sudden espionage windfall, or pick up debts that might force a knowledgeable person to offer information from his memory for sale, or note patterns of travel that raise questions.

A second resource allocation issue that our findings address involves the allocation of resources for vetting among the various levels of security clearance. Most resources now are devoted to persons applying for Top Secret or higher access. Applicants for these types of clearance receive more extensive background investigations including personal interviews, and their clearances are reevaluated at least at 5-year intervals rather than at 10-year or 15-year periods. Yet of the cleared individuals included in the espionage database, 33 spies (more than one-fifth of the total) possessed no higher than Confidential or Secret clearances. Among these were spies such as William Bell, Robert Thompson, and Ruby Schuler, whose espionage caused

considerable damage to the United States. While it would not be feasible to devote the same amount of money and effort to screening these lower clearances as goes toward the higher access clearances, at a minimum a more comprehensive financial screening and past criminal history for Confidential and Secret clearances should be performed. Using capabilities to do automated data mining, it is now possible to expand automated credit checking to identify some initial applicants even for lower access with a risk profile for espionage. Current policy debate over whether to devote the additional resources to screen Secret level clearances with ACES along with Top Secret clearances demonstrates the relevance of this finding.

The vetting procedures for a security clearance focus on the applicant's background, past activities, and experiences, to generate information that serves as the basis of an educated judgment on the likelihood the person will be trustworthy and reliable. These procedures are not designed to identify spies, and when put to the test they have not done so. At least six individuals in the espionage database were screened and granted or retained security clearances while they were actively engaged in espionage. Example include James Clark, who had been spying as part of the Stand ring for 10 years when in 1986 he lied about his 20-year involvement in radical and Communist groups on his application for a clearance as a government contractor. He received a Secret clearance. Later he shifted to a job as a civilian analyst for the Army, and in 1992 the Army reaffirmed his clearance (Masters, 1998; Weiner, 1997). Sergeant Clyde Conrad began spying for Zoltan Szabo in 1975, and his Top Secret clearance was reaffirmed in 1978 after the obligatory periodic reinvestigation failed to question Conrad's apparent unexplained affluence or to note his habit of working late by himself in the classified vault (Roth, 1988). David Boone, an Army cryptanalyst, walked into the Soviet embassy in Washington, D.C. and volunteered to spy in 1988. During his reinvestigation for a Top Secret clearance in 1990, investigators noted his debts and revoked his access; this provoked Boone to resign from the Army in 1991. His espionage, however, remained unsuspected until 1998, when the FBI ran a successful sting against him (U.S. District Court, 1998). Warrant Officer James Hall passed two periodic reinvestigations of his Top Secret clearance while selling classified documents to the Soviet and East German intelligence services. Despite a lavish lifestyle and the conflicting stories he told to explain it, his clearance was reaffirmed twice and he spied for seven years⁹ (Rafalko, n.d.; Wilson, 1989; Engelberg, 1989). Catching a spy is a counterintelligence task that asks different questions and uses different procedures from those of clearance screening. These instances caution us that a background investigation as currently structured will probably not identify a competent spy.

Security Awareness: Co-Worker Responsibilities

Programs that explain the requirements of handling classified materials and the responsibilities of holding a clearance are the workhorses of the security system; often they are underappreciated and underfunded, yet they play an essential role by keeping security issues salient to those with access. In daily work settings, an awareness of security requirements has prompted co-workers of suspected spies to report inappropriate behavior, and this in turn has resulted in the apprehension of several individuals. Michael Allen's co-workers and supervisors noticed various security infractions that over time made them suspicious. In 1986 Allen was

⁹ The other two individuals who were committing espionage while they applied for and were granted a security clearance were Theresa Squillacote and Glenn Souther.

working as a civilian clerk for the Navy in the Philippines. Retired from the Navy in 1972, in addition to his day job, he had developed businesses in the Philippines including a used car dealership, a bar, and a cockfighting ring. Apparently to advance these interests, Allen photocopied and passed classified U.S. intelligence reports to Philippine intelligence. His co-workers at Cubi Point Naval Air Station noticed his excessive photocopying, his boasting about involvements with foreign agents, his story about buying a stolen car and having its identification altered, his flashing around credentials that falsely claimed he was an agent of the Philippine police, and his penchant for freely spending a lot of money. Adding things up, they reported their concerns to the Naval Investigative Service, whose agents videotaped Allen copying classified documents and stuffing them into his clothes. Allen received 8 years in prison and a \$10,000 fine for his espionage (Sylvest, 1988; Weintraub, 1986; Associated Press, 1986).

In two other instances—Samuel Morison and Jonathan Pollard—co-workers noticed and raised questions about cleared employees' security violations, such as their interest in classified materials not related to work, the removal of documents to take them home, and patterns of suspicious photocopying. Morison's colleagues noticed his "nosiness" about issues not related to his work, and when he sent copies of classified naval photographs of a Soviet carrier to a British defense magazine in 1984, they knew who to suggest had done it. Morison hoped for an editor's position with the publication (Lardner, Jr., 1985). Pollard allowed Israeli intelligence agents to copy stacks of classified reports that he brought out to them, but his own "insatiable appetite for documents outside his field of interest" provoked the initial tips from co-workers that focused suspicion on him (*The New York Times*, 1987).

On the other hand, some spies claimed that co-workers could easily have realized what they were doing but did not act. Often people refused to question a colleague's activities no matter how blatant they seemed in retrospect. Jeffrey Carney recounted from prison how he had taken "a huge document and another huge document with me, went across the hall into an unsecured room, laid the documents out on the table, secured everything, and had my camera ready, and started photographing. I was walked in on two times while I was photographing. My face went red as a beet because my blood pressure was unbelievable, and the people went, 'Oh, excuse me, I didn't know you were busy,' and they turned around and walked out." As Arthur Walker noted from his cell, "a lot of people just tend to mind their own business" (Stein, 1994).

One of the several governing statements of federal policy on security responsibilities for cleared personnel, Executive Order 12968, *Access to Classified Information*, states that "Employees are encouraged and expected to report any information that raises doubts as to whether another employee's continued eligibility for access to classified information is clearly consistent with the national security." This expectation cuts across the strong disinclination in American culture to "rat" on a peer, as well as across the determination to mind one's own business as the best way to get along with co-workers. Security managers strive to temper these feelings and to convince cleared employees of the rare but actual fact of espionage in the workplace by telling and dramatizing stories of instances of it. A related issue security managers face involves convincing employees to draw official attention to cleared co-workers whose personal crises threaten to evolve into security risks. As discussed above, some spies' crises seemed to trigger a plunge into espionage as the only way they could see to resolve their problems. Co-workers often know about the personal disarray in a colleague's life, but the

decision to tell security about a peer's problems, and risk the person losing a clearance or even a job, is difficult. This ambivalence can be seen in the results of a respected national public opinion poll that asked respondents if they thought people should report a co-worker's security violations. The poll found that respondents were evenly divided between those who would report a co-worker immediately, and those who would speak to the person, offering them a chance to improve, without reporting them (Wood, 2002). The hopes pinned on federal Employee Assistance programs as a way out of this quandary, since these programs allow a troubled employee to be referred for professional help before the troubles escalate, have so far been undercut by lack of trust in assurances of confidentiality by a government program (Wood & Fischer, 2002).

Position Vulnerability Assessment

Our findings support the suggestion that much of the risk of espionage is associated with the type and location of the job a person fills. Some jobs present more opportunity for espionage than others, and evaluating jobs on a scale of their potential for espionage allows needed fine-tuning of counterespionage measures. The personnel security system shows a persistent preference for assessment of the person rather than the position. (See Parker and Wiskoff, "Temperament Constructs Related to Betrayal of Trust," 1991, for a review of the literatures on trust betrayal and potential personality factors in espionage.) Concentrating exclusively on individuals and on the qualities that could make them susceptible to spying ignores the differential risks associated with factors we see in the espionage database such as overseas assignments, certain occupations, or rank. For example, after the 1986 scandal at the U.S. Embassy in Moscow, where Marine Sergeant Clayton Lonetree provided classified information to the Soviets, the U.S. Marine Corps reevaluated the position of Marine security guard and changed its assignment procedures. Instead of assigning inexperienced guards to Eastern Bloc posts as had been their policy, after 1986 the Marines only sent those with previous embassy experience to these sensitive posts (Wiskoff, et al., 1989).

A rare example of analysis on how to assess position vulnerability is the study of positions with SCI access by Kent S. Crawford and Michael J. Bosshardt, "*Assessment of Position Factors that Increase Vulnerability to Espionage*" (1993). The authors generated a list of possible vulnerability factors and asked intelligence specialists to validate them; professionals then ranked the most robust factors. Their results are suggestive: informants ranked the four most serious vulnerabilities as the sensitivity of classified information, the degree of contact with foreign nationals, the frequency of access to classified information, and the threat from foreign intelligence at that location. Crawford and Bosshardt then explored and ranked factors that security managers could not do much about and those they could more easily change. Further research following up on this work would assist the counterintelligence community to think about espionage risk in terms of positions as well as people.

Tendencies in the Incidence and the Recipients of Espionage

Our data support some generalizations about the number of known American spies operating at given points in time and about which nations were paying them for information. In

the following section we will consider these data and the tendencies they suggest, based on comparisons across all the cases in the espionage database.

The Prevalence of Spies

The public perception in the mid-1980s that espionage was becoming disturbingly common was not unfounded; among the cases that were publicly discussed, there were more American spies active in the 1980s than in other periods of time before or since.

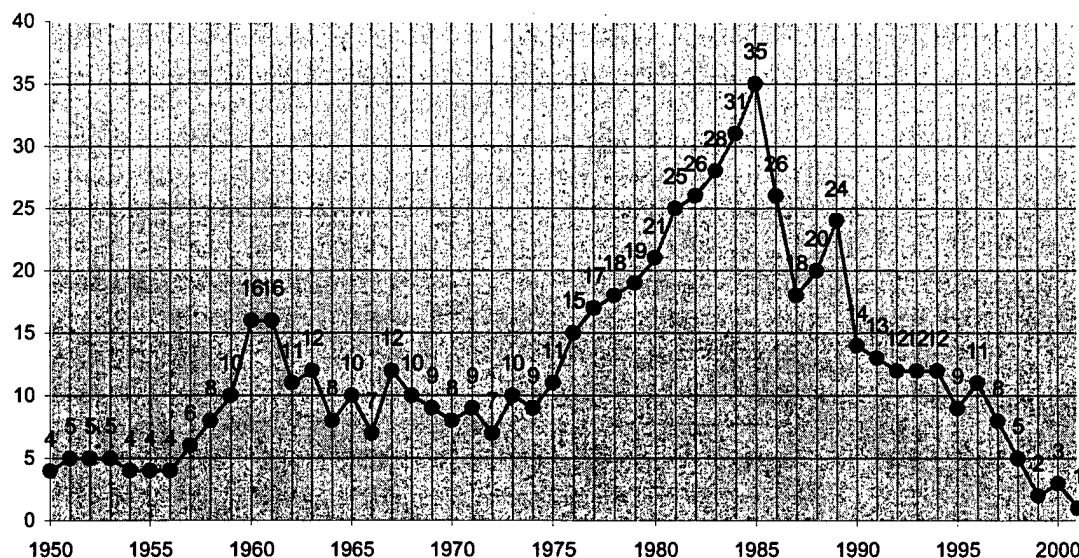


Figure 2 Known Spies Active in Each Year, 1950 through 2001

Figure 2 shows the number of American citizens actively spying in each year between 1950 and 2001, when FBI agent Robert Hanssen was arrested in February. The chart was constructed by comparing the date on which a spy began espionage with the date on which he or she ended the espionage, not when the person was arrested since that might be months or even years after they stopped. Interceptions were counted once in the year in which they occurred, while a spy with a long-running career such as Larry Wu-tai Chin was counted as active in each year from 1952 through 1985 when he was apprehended. Someone who stopped spying and later started again was counted as active only in the years during which he or she was operating.

The chart documents that starting in 1975 and continuing until 1990, more Americans were known to be spying and trying to spy than in earlier or later periods. The peak came in 1985, with 35 active or attempted spies. This suggests that the outrage focused on “the year of the spy” in 1985 was not misplaced. As we noted above, what was different about espionage in the 1980s was the increase in inept, easily caught espionage attempts by young military men: three-fourths of the interceptions took place during the 1980s. On the other hand, starting in the

late 1970's, the government abruptly reversed its approach to prosecution for espionage and began to make public examples of spies that were apprehended. So we simply know about more espionage cases starting in 1977 and when the FISA and CIPA legislation passed a few years later. A question worth further study is whether all the publicity about spying in the mid-1980s, and the thorough press coverage given to lucrative spy cases such as John Walker, Jr.'s ring, did not deter espionage but actually encouraged readers to give spying a try. A "copycat" phenomenon in espionage has been suggested but has yet to be demonstrated (Pincus, 2001).

The Nationalities of Recipients

In addition to changes over time in the number of Americans spying, the countries for which they spied changed as the Cold War waxed and then waned and died. Table 16 shows the incidence of espionage cases by the nationality of the recipient, or intended recipient, of the information and the relationship of these nations to the United States at the time of the espionage.

Table 16
Nationalities of Recipients or Intended Recipients of Information (n=149)

Nationality of Recipient	<i>n</i>	%
<u>Adversarial to the U.S. at the time of espionage</u>		
Soviet Union	84	56
East Germany	12	8
Hungary	7	5
Czechoslovakia	6	4
China	5	3
Poland	4	3
Cuba	5	3
Iraq, Libya, North Korea, Vietnam (1 each)	4	3
Subtotal: adversarial powers	127	85
<u>Neutral or friendly to the U.S. at the time of espionage</u>		
South Africa	2	1
Israel	2	1
Philippines	3	2
Ecuador, Egypt, El Salvador, France, Ghana, Greece, Japan, Jordan, Liberia, Netherlands, Russia, Saudi Arabia, South Korea, Taiwan, United Kingdom ^a (1 each)	15	10
Subtotal: neutral or friendly powers	22	15
Total	149	100

Note. Eight individuals supplied information to two persons representing two different countries, and for 9 individuals the nationalities of their recipients or intended recipients are unknown (149 recipients)

^a It is arguable that the case of Samuel Morison's sharing of classified photographs with a British publication, *Jane's Defence Weekly*, and mishandling classified documents by taking them home, does not represent espionage against the U.S. by the U.K.

As one would expect during the Cold War, in espionage undertaken in a contest between adversaries, in most cases American spies have helped countries hostile to the United States, with our Cold War opponent, the Soviet Union, the predominant recipient. As a matter of course Eastern bloc countries and Soviet allies funneled information they received from American agents to the Soviet Union, so we are justified in thinking of the Soviets as the eventual recipients through these various intermediaries.

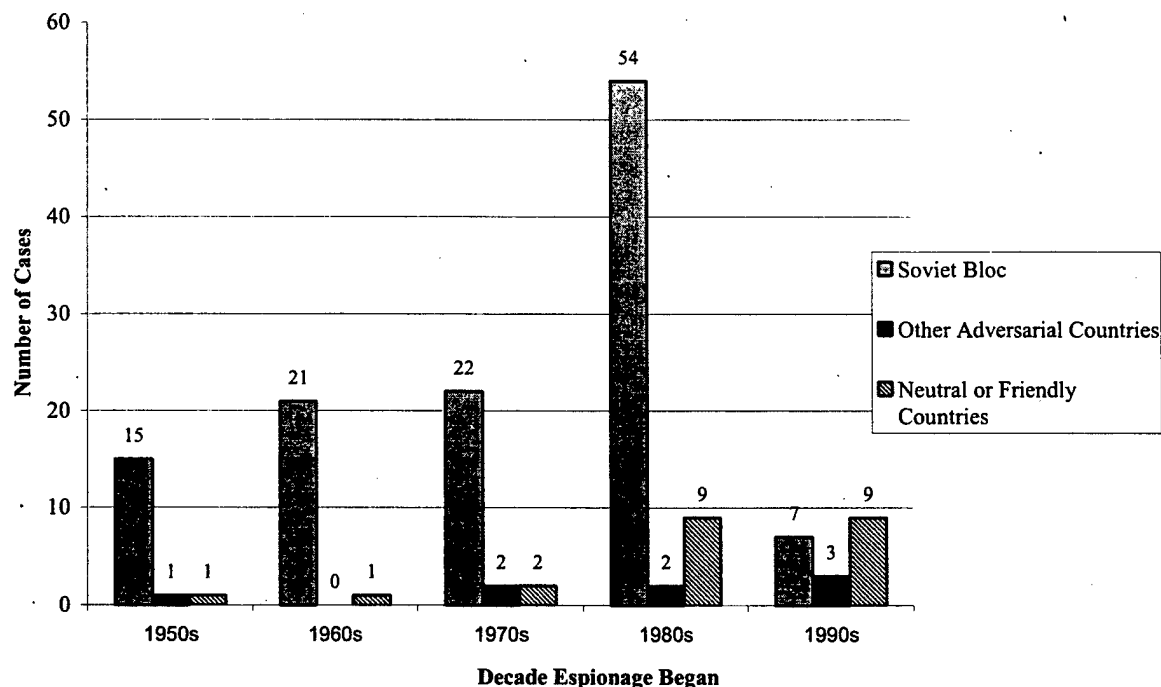


Figure 3 Recipients of Espionage from American Spies

Figure 3 depicts the trend over time of the recipients of American espionage, and the predominance of Soviet Bloc countries during this Cold War period is obvious. More surprising is the range of neutral and friendly powers that have availed themselves of help from American spies by taking classified information from the United States. Seventeen different neutral or friendly nations have received information from American spies, suggesting that the model of espionage as a contest between adversaries is too simple—the usefulness of information denied to all but trusted insiders has made it too attractive even for allies to pass up.

Table 17
Nationalities of Non-Soviet Bloc Recipients Over Time

Period of Time		Nationality	Date Espionage Began
1942-1975	3 cases	Netherlands	1948
		China	1952
		Egypt	1967
1976-1980	3 cases	Libya	1977
		Greece	1977
		South Africa	1979
1981-1990	13 cases	South Africa	1981
		Ghana	1983
		Israel (2 cases)	1984, 1985
		China (3 cases)	1984, 1985, 1985
		United Kingdom	1984
		Philippines (3 cases)	1986, 1990, 1990
		Taiwan	1986
		Japan	1986
1990-2000	13 cases	Jordan	1990
		Iraq	1990
		Liberia	1991
		Ecuador	1991
		Cuba (5 cases)	1992, 1994, 1994, 1994,
		Saudi Arabia	1999
		El Salvador	1992
		China	1992
		South Korea	1996
			1996

Table 17 demonstrates a tendency over time to a widening circle of interested buyers of information from American spies. During the first three decades covered by the espionage database there were only three instances of espionage directed to non-Soviet bloc recipients. Three more cases occurred over the next five years: from 1976 through 1980, three Americans spied for the non-Soviet bloc countries of Libya, Greece, and South Africa. Between 1981 and 1990 there were 13 instances, a sudden increase that reflects the accelerating pace of globalization with its interconnectedness between nations and peoples both for good and for ill. Noteworthy developments included the interest of Asian countries in American information, including 3 individuals who spied for China, 3 for the Philippines, and one spy each for Taiwan and Japan. During the following decade, between 1990 and 2001, globalization continued to expand its reach, with new recipients from South American and Middle Eastern nations joining Asian buyers of American secrets. The Gulf War in 1991 brought with it espionage for Jordan, Iraq, and Saudi Arabia. Cuba stepped up its persistent seeking after American information during the 1990s, sending American-born agents with family ties in Cuba as well as Cuban-born agents to collect data for the Cuban intelligence service. Five American citizens have been convicted of espionage for Cuba since 1995, along with nine Cuban-born agents who were part of a south Florida spy ring called the "Red Avispa [Wasp]" (Smikle, 1999).

Trends in American Espionage Since the End of the Cold War

The analyses reported in the previous sections of this paper have included all 150 espionage cases that occurred across the five decades since 1950. The publication of the initial version of the study of PERSEREC's espionage database in May 1992 nearly coincided with the collapse of the USSR in November 1991; this coincidence meant that no post-Cold War cases were included in the initial version. The end of the Cold War did not mean the end of espionage by Americans, but it seems to have brought changes in the practice of this crime. In this section we will compare Americans who began spying during the Cold War, 1947-1989, with those who began in 1990 and thereafter while the USSR was in its last months and then after its demise. In this table we have also broken out the decade of the 1980s of the Cold War to highlight several anomalies in that period.

Table 18
Comparison of Espionage Began in the Three Periods 1947-79, 1980-1989, and 1990-2001

Characteristics	<i>Began 1947-1979</i>		<i>Began 1980-1989</i>		<i>Began 1990-2001</i>	
	<i>n=65</i>	<i>%</i>	<i>n=65</i>	<i>%</i>	<i>n=20</i>	<i>%</i>
Gender (n=150)						
Male	62	95	60	92	17	85
Female	3	5	5	8	3	15
Race or ethnic group (n=143)						
White	59	91	54	83	9	45
Black	5	8	2	3	2	10
Asian	1	2	2	3	1	5
Native American	0		1	2	0	
Hispanic	0		2	3	5	25
unknown	0		4	6	3	15
Sexual preference (n=116)						
Heterosexual	52	80	45	69	11	55
Homosexual	4	6	2	3	0	
Unknown	7	11	18	28	9	45
Median age when espionage began, in years (n=147)	31		25		39	
Marital status when espionage began (n=140)						
Married	45	69	27	42	8	40
Single	16	25	25	38	5	25
Separated or divorced	4	6	8	12	2	10
Unknown			5	8	5	25

Characteristics	<i>Began 1947-1979</i>		<i>Began 1980-1989</i>		<i>Began 1990-2001</i>	
	<i>n=65</i>	<i>%</i>	<i>n=65</i>	<i>%</i>	<i>n=20</i>	<i>%</i>
Military or civilian (n=150)						
Civilian	31	48	31	48	15	75
Military	34	52	34	52	5	25
Army	15	44	9	26	2	40
Navy	6	18	17	50	2	40
AF	13	38	5	15	0	
Marines	0		3	9	1	20
Military rank (n=67)						
E1 -E3	3	8	10	29	0	
E4 -E6	16	47	16	47	3	60
E7 - WO	10	29	3	9	0	
Officer	4	12	2	6	1	20
unknown	1	3	3	9	1	20
Intercepted or passed information (n=150)						
Intercepted	6	9	29	45	4	20
Passed information	59	91	36	55	16	80
Duration (n=150)						
Intercepted	6	9	29	45	4	20
Less than 1 year	14	22	10	15	6	30
1 to 4.9 years	23	35	17	26	9	45
5 or more years	22	34	9	14	1	5
Major occupational category (n=148)						
Communications/intelligence	25	38	20	31	4	20
General/technical	10	15	22	34	6	30
Scientific/professional	5	23	9	14	2	10
Functional support or administrative	12	19	9	14	3	15
Miscellaneous	3	5	4	6	4	20
unknown			1	2	1	5
Security clearance (n=141)						
Confidential	1	2	3	4	0	
Secret	10	15	14	22	5	25
Top secret	28	43	18	28	4	20
Top secret SCI	10	15	9	14	2	10
None held during espionage	11	17	18	28	8	40
unknown	5	8	3	4	1	5
Type of employment during espionage (n=148)						
Uniformed military	34	52	34	52	5	25
Civil servant	14	22	12	18	8	40
Government contractor	7	11	7	11	5	25
Job unrelated	10	15	12	18	0	
unknown					2	10

Characteristics	<i>Began 1947-1979</i>		<i>Began 1980-1989</i>		<i>Began 1990-2001</i>	
	<i>n=65</i>	<i>%</i>	<i>n=65</i>	<i>%</i>	<i>n=20</i>	<i>%</i>
Native or naturalized citizenship (n=148)						
Native	52	80	56	86	14	70
Naturalized	13	20	8	12	5	25
unknown			1	2	1	5
Had foreign attachments (n=150)						
Yes	34	52	21	32	11	55
No	31	48	44	68	9	45
Where espionage began (n=147)						
US west coast	5	8	15	23	2	10
US east coast	26	40	21	32	11	55
US other	5	8	11	17	1	5
Foreign	27	42	17	26	6	30
Unknown	2	3	1	2		
Volunteer or recruit (n=148)						
Volunteer	34	52	46	71	14	70
Recruit	30	46	19	29	5	25
unknown	1	2			1	5
Decade began (n=150)						
1940s	5	8				
1950s	12	18				
1960s	22	34				
1970s	26	40				
1980s	0		65	100		
1990s	0				19	95
2000s	0				1	5
Decade ended (n=150)						
1940s	1	2				
1950s	6	9				
1960s	24	37				
1970s	17	26				
1980s	13	20	58	89		
1990s	3	5	7	11	18	90
2000s	1	2			2	10
Motivation (237 total motives) [n=number of individuals]	Single motive: (n= 43) Money 20 Divided loyalties 7 Disgruntlement 7 Thrills 1 Ingratiation 4 Coercion 4 50 Multiple motives: (n=22) Money 20 Divided loyalties 7 Disgruntlement 10 Thrills 9 Ingratiation 2 Coercion 2		Single motive: (n= 31) Money 26 Divided loyalties 1 Disgruntlement 2 Thrills 1 Ingratiation 1 Coercion 0 78 Multiple motives: (n=34) Money 30 Divided loyalties 8 Disgruntlement 17 Thrills 6 Ingratiation 12 Coercion 1 Recognition 4		Single motive: (n= 10) Money 1 Divided loyalties 5 Disgruntlement 2 Thrills 0 Ingratiation 2 Coercion 0 25 Multiple motives: (n=10) Money 7 Divided loyalties 5 Disgruntlement 4 Thrills 1 Ingratiation 5 Coercion 1 Recognition 2	

Demographically, the 20 Americans who began spying in the 1990s reflect some of the population and social trends of the decade: the aging of the baby boom generation, more participation by women and ethnic minorities, fewer people choosing marriage, and a shrinking military force offset by increased contracting from the private sector for services by the federal government. American spies of the 1990s have been older, with a median age of 39, than either of the earlier two groups (which had median ages of 31 for those who began espionage between 1947 and 1979, and 25 for those in the 1980s). They include a larger proportion of women (15%), of racial and ethnic minorities, notably the 25% who were Hispanic Americans, and a lower proportion of married persons. Given that for almost half of the individuals who began spying since 1990 sexual preference is unknown, these data do not support statements about trends in sexual preference.

Whereas roughly half of each of the two earlier cohorts of American spies had been members of the military, three quarters of the spies in the 1990s have been civilians. Compared to the two earlier periods, the group in the 1990s had twice the proportion of civilian government employees (40%) and twice the proportion of government contractors (25%). Among the military spies, the proportions from each of the various military services has shifted over time: between 1947 and 1979 the largest proportions of spies came from the Army (44%) and the Air Force (38%), with the Navy a distant third with 18%. During the 1980s the proportion of Navy spies shot up to 50% of the military spies, while Army and Air Force spies declined. Three cases of espionage by Marines occurred in the 1980s, roughly 10% of the military cases. In the 1990s the number of military spies, at 5 cases (2 Army, 2 Navy, and 1 Marine), is too small to suggest a trend except to demonstrate that military espionage has declined compared to that by civilians.

The proportion of interceptions increased dramatically in the 1980s when there was an influx into espionage of young, inexperienced military personnel: from a rate of roughly 10% interceptions between 1947 and 1979, the rate climbed to 45% in the 1980s. Spies in the 1990s have been much more "successful" at avoiding interception and passing information: only 20% have been intercepted in the 1990s, which means that four-fifths of them have passed information to foreign powers.

Duration of espionage also points to the 1980s as an anomaly compared to the earlier and later periods. Between 1947 and 1979, one-third of spies persisted in espionage for between one and five years, and another one-third persisted for more than 5 years. During the 1980s, 60% of the spies were either intercepted immediately or caught in less than one year. Spies in the 1990s have been more evenly distributed in duration, but few cases have been long-running: half have either been intercepted or caught within 1 year, 45% persisted between 1 and 5 years, and only one case lasted more than 5 years.

The decline in the relative importance of recruiting noted in the 1980s has continued into the 1990s. Between 1947 and 1979 the proportion of volunteers to recruits was fairly closely balanced, with 52% volunteers and 46% recruits. This changed in the 1980s, as Americans volunteering to commit espionage became the norm: during that decade 71% volunteered versus 29% who were recruited. In the 1990s this pattern persists, with 70% volunteering and 25% recruited.

The level of security clearance held by Americans who commit espionage is a factor that demonstrates counterintuitive trends. Confidential disappears as a clearance level in espionage cases in the 1990s as this designation for clearance has fallen into disuse. Secret level clearances among spies show a steady proportionate increase over time, and constitute one-fourth of the cases in the 1990s, while the proportion of Top Secret clearances declined from 43% in the earliest period, to 28% in the 1980s, and to 20% in the 1990s. On the other hand, espionage by persons holding no security clearance at the time they began spying increased over time, from 17% of the cases between 1947 and 1979, to 28% in the 1980s, and to a surprising 40% of the cases in the 1990s. In seven of the 20 cases during the 1990s, the individuals held no security clearances. These include four recent cases of Americans of Cuban descent: Alejandro Alonso, Linda and Nilo Hernandez, and Joseph Santos, and three other instances: Douglas Groat, who offered to sell information after he left his job at the CIA; Joseph Brown, who used the access to classified information of a friend, Virginia Baynes; and Albert Sombolay, who sold unclassified but sensitive information on troop dispositions and equipment during the Gulf War.

The trend in the proportion of naturalized citizens involved in espionage shows a dip during the 1980s followed by a rise to a slightly larger percentage in the 1990s. Between 1947 and 1979, one-fifth of individuals in the espionage database held naturalized citizenship. During the 1980s the percentage of naturalized citizens fell to 12%, reflecting the influx into espionage in that decade of young military personnel who are predominately native born. In the 1990s 25% of American spies were naturalized citizens. The proportion of individuals with foreign attachments follows this same pattern. From an almost even split between 1947 to 1979, with roughly half of American spies having foreign attachments and half having none, the percentage of those with foreign attachments declined during the 1980s to one-third, then rose during the 1990s to 55% with foreign attachments.

Although they constitute a statistically small group of 20 people, American spies in the 1990s would seem to reflect demographic changes in the United States that are bringing into the country larger numbers of foreign-born residents, while at the same time naturalization rates are declining. Citing data from the U.S. Census Bureau, one observer of these remarkable trends notes that:

The current level of immigration is unprecedented in American history, with the 1990s witnessing the largest influx of immigrants in national history... [and a] proportional decrease in naturalization rates among foreign born immigrants....[Between 1970 to 2000], the number of naturalized citizens expanded by 71 percent (from 6.2 million to 10.6 million), while the number of non-citizens increased by 401 percent (from 3.5 million to 17.8 million) (Krause, 2002).

Comparing the motivations given for espionage over these three time periods reinforces this pattern of a falling impact of foreign-born and foreign attachments in the 1980s, and then a rising impact in the 1990s. Considering those individuals who gave a single motive for their espionage, between 1947 and 1979 almost half of these American spies (47%) cited the most common motive, money; in the 1980s that figure rose to 84% who said money had motivated them. Only 10% of American spies in the 1990s claimed money as their motive, but 50% cited divided loyalties. For the earlier cohorts with a single motive, divided loyalties had been much

less important: among spies between 1947 and 1979, 16% held divided loyalties, while for those in the 1980s only one individual, 3%, held divided loyalties. Because these trends from the espionage database in naturalized citizenship, foreign attachments, and motivation by divided loyalties are consistent and striking for the cases in the recent past, we explored more deeply the impact these trends could have on issues of national allegiance. The trends we see in espionage during the 1990s reflect two developments that are redefining the current and the future relationship of the nation and the world: a global economy, and an international information marketplace.

The Impact of Globalization on Espionage

Economics on an international scale has been developing steadily over the 20th century and has accelerated over the last 20 years. Numerous analyses have tried to describe this far-reaching change and to grasp what its implications will be. It is a trend that is so large and so pervasive that it is difficult to mentally step away from it to get the perspective needed to see its implications. It affects international politics, finance, military relations, demographics—few dimensions of life will be untouched by this trend. There is no doubt that globalization now has and in the future will have many implications for espionage and for the conduct of counterespionage (Friedman, 2000).

Typically espionage is framed as a contest between adversaries. This concept developed along with the nation state, which is a defined territory under a sovereign power that controls that territory. In this model, information about the nation state “belongs” to the state, is protected by the state if possible, and may be of lively interest to an opponent. Military forces protect the sovereignty of the government and maintain the territorial integrity of the nation state; in some instances, they enlarge that territory at the expense of adjacent nation states. In this model, citizens of the nation who commit espionage endanger that state when they give or sell its information to another state that uses it for its own advantage. This act betrays the loyalty implicitly demanded of citizens of the nation state in exchange for the benefits provided to them (protection, stability, infrastructure, legal systems, etc.) by the sovereign and his or her military forces.

Few of these descriptive statements about espionage among nation states fit a world integrating into a global economy. Analysts now argue that international power rests less on territorial hegemony or military power, and more on how successfully a nation’s citizens participate in the global economy (Treverton, 2001). In the global economy a nation’s success depends more on capitalizing on the free exchange of peoples and ideas from around the world, on using government’s legitimacy to convene and negotiate among international competitors rather than dominating over them, and on using to best advantage the growing international power of private actors such as corporations, banks, and independent agencies. In this context, the very meaning and responsibilities of the term “citizen” would change: if everyone participates in a single global economy, does loyalty flow not toward the sovereign of a territory, but rather toward our fellow professionals, to those in our industry, or to our stockholders scattered around the world? (Pink, 2001; Roberts, 2001).

Geneva Jones was an example of an American confused about international loyalties. She accepted a secretarial position at the State Department in 1990 and moved from her sheltered life in Augusta, GA, to Washington, D.C., where she felt "dazzled by an international city teeming with African immigrants anxious about the fate of their motherland" (Cummings, 1994a). Jones realized that "Where I come from in Georgia, we don't get any news about Africa... I didn't know anything about Africa, about being of African descent." According to court records, as Jones became more interested in her own African heritage, at first she began stealing embassy cables for her private reading. She told FBI agents she felt the media and the government did not provide a balanced portrait of Africa, and so she needed the cables "to learn about the Africa she was discovering." Jones further rationalized her activities by saying, "And, I think, my overall objective was, you know, for the information... to help my people some kind of way by putting information out on Africa" (Cummings, 1994a). In response to her growing passion about Africa and for a West African journalist named Dominic Ntube, Jones began stealing classified State Department and CIA documents relating to Africa and passing them to Ntube and his friends and associates. Arrested in 1993, she received a 3-year prison sentence for unlawful communication of defense information (Brown, 1993; Cummings, 1994b).

Nations spying on other nations have usually targeted economic information as well as military secrets. Economic data has been sought especially by less advanced nations looking for short cuts to industrial and technological development. The Soviet Union, chronically lagging behind the West in industrial development, refined economic espionage into an art in its effort to catch up. In a global economy, this type of economic espionage becomes imperative. Information about economic matters will become increasingly valuable. Already specialists in "corporate intelligence" spy on each other's innovations in the "warfare" of business (Mason, 2001). The line between government's defense secrets that can be classified and industry's corporate secrets is becoming ever more confused, as "dual use technologies" (those that have both military and commercial applications) become the norm with development coordinated between private and governmental entities. Ronald Hoffman's private sale of classified technology developed for the military by a contractor is one example of a growing trend (Schweizer, 1992). One can project that military secrets will continue to be valuable and therefore protected, but the types of information salient to a nation's defense will broaden into the economic sphere and outward into other spheres of life where information is difficult to safeguard.

Internationally, the process of recognizing friends and identifying opponents who would send spies against the state is changed in a global economy. Already espionage by allies is not uncommon, and with the disappearance of the bi-polar international system of the Cold War, potential buyers of advantageous information proliferate. One commentator predicts, "the victors in global economic warfare will form regional economic alliances that will share information and together strengthen their collective—and individual—economic power" (Melton, n.d.). The shape of such alliances is still emerging, but one characteristic already apparent in them is that they are temporary and they shift as the best advantage shifts, not necessarily staying with historic commitments or values. The cautious cooperation between the U.S. and Russia in the campaign against terrorists in Afghanistan, as of January 2002, is a startling instance of this trend.

Among the global flow of workers moving between countries for better jobs and corporations moving to countries where labor can be bought more cheaply, the usual immigration controls such as weighted quotas make less sense. Already guest workers in some European nations, not eligible for full citizenship, have lived several generations in a resentful limbo of non-nationality. As the millennium turned, more than half the engineering PhD's in the United States were granted to foreign students, and persons from other nations dominated many of the sciences, mathematics, and computing in American universities (Loeb, 1999). More of the nations of the world are allowing persons born on their soil to retain nationality when they naturalize in another country, becoming "dual citizens" (Spiro, 2000; Renshon, 2001). How does the nation state, now facing espionage from many quarters, minimize its vulnerability from divided or diluted loyalties if ever more of its citizens come from other nations, maintain foreign attachments, and view life in any particular nation as merely a temporary stay until something better opens up elsewhere around the world? The traditional concept of national allegiance, born in an era of nation state politics, breaks down in a global economy.

Since allegiance is an important cornerstone of personnel security policy, re-conceptualizing it in ways that will still be relevant for the future is an urgent task. The many Americans who protested even while they spied that they were still loyal citizens, and that their espionage was just another business deal, are pointing analysts to the fact that espionage cannot be analyzed in the old nationalistic terms. Earl Pitts "considered himself an intense patriot," and after his conviction for espionage wrote to his wife from prison that " 'I think I always stood up for the people of this country...'" despite passing secrets to the KGB and then the SVRR for years (Brenner, 1997). Citizens like Pitts embody a trend in allegiance that will become more challenging in a global economy.

The Impact of New Information Structures on Espionage

Among known cases, there have been five individuals who sought to transfer information electronically during their espionage, plus Brian Regan who was not included in our analyses because the case is not yet decided. The six cases began as early as 1979 with Robert Hanssen, but they all ended between February 1989 and August 2001. Most of these individuals were actively spying during the 1990s, and like many Americans, they were taking advantage of the transformation of information management occurring around them.

As information technology evolved, the spy's methods have evolved with it. When information was oral, spies memorized and recited secrets. When rulers wrote down their most precious plans, spies stole the papers and took them to the enemy. When photography and microforms and xerography and facsimile technologies transformed information management over the 20th century, spies learned to use cameras and microdots and the photocopy machine in the hallway, and then mailed or FedEx'd their haul. Over the last two decades, automated information technologies, computers, networks of computers, and the global Internet have again transformed the use and therefore also the theft of information. From recent espionage cases, we can foresee rapidly changing trends in the collection, transmission, and application of information.

Satellite surveillance as an intelligence source is some three decades old and has become so sophisticated through infrared camera, radar, and advanced sensing lenses that resolutions in images is approaching one inch in diameter (Melton, n.d.). Satellites that monitor communications of all types use speech recognition software and artificial intelligence routines to sift and analyze billions of wireless transmissions. Data-mining programs under development can convert intercepted audio signals into readable, searchable text that can then be searched with another program in a language different from the text (Greene, 2001). These expensive collection and analysis methods generate intelligence that other nations without these capabilities want and seek through espionage. It is more cost effective for a nation lacking these means of surveillance to pay an insider spy at government agencies for information collected with satellites and analyzed by supercomputers than to duplicate these collectors themselves.

With these capabilities comes vulnerability to both espionage and sabotage. In one commentator's summary of American reliance on space-based capabilities,

With the new information-based society, the United States depends on an intricate and fragile web of telecommunications networks: Telephones, cell phones, fax and Internet, news and entertainment, commerce and trade, banking and financial markets, and just about everything else that requires the transmission of information also requires the use of satellites and space (Waller, 2002).

The Internet changes everything. Its charm and utility for the researcher is in the vast amount and breadth of open source information that is accessible and organized immediately by an Internet browser. Opportunities to communicate with persons around the world allow instant exchange of information and viewpoints unimaginable only a few years ago. Spies appreciate these capabilities as well. Much of what espionage agents want to collect can actually be found or confirmed from mere open source materials, and as economic data becomes more important in a global economy the value of these materials will rise. High-speed Internet access, networked computers that share information quickly, and the large-scale computer power to analyze enormous amounts of data allow searching, storing, compiling, and then instantaneously transmitting information anywhere in the world at minimal cost. Government agencies rely on restricted computer networks to access and share classified information, and these become attractive targets for insider spies with systems skills. Having accessed, sifted, and collected information, by using the Internet spies can with relative ease and safety make connections with potential buyers of that information.

For example, Brian Regan is a former Air Force master sergeant working as a contractor at NRO who was recently arrested for espionage and as of this writing has not yet been tried. He is accused of downloading classified information from a secure intelligence network and contacting potential buyers over the Internet while he sat at computers in branch public libraries (Masters, 2001). No longer do spies need to chew up their papers or hide microfilms in pumpkins; electronic transmissions are invisible, difficult to trace, and challenging to monitor. Messages can be encrypted with commercial software, such as the encrypted offers of classified information Brian Regan is accused of sending to Iraq, Libya, and China, or as Robert Hanssen did in his encrypted letters to the Russian SVRR; they can be hidden in innocuous transmissions,

embedded in other documents or even in the files of photos or audio signals (Margasak, 2002 [Regan]; McGeary, et al, 2001 [Hanssen]).

Developments are underway in cyber warfare techniques and cyber defense of information systems infrastructures that capitalize on these systems, creating a new arena of international competition. International hacking into computer systems both to steal information and to disrupt the target's systems has provoked the U.S. government to investigate and to respond to various incidents. New federal agencies are at work to defend the nation's information systems from attack and to develop an offensive ability (Bridis, 2001). One example of this trend is the capability that already exists to unleash through the Internet "cyber-agents," stealthy search programs that surreptitiously look through the targeted computers of other people and help themselves to secrets—the computer becomes the spy (Melton, n.d.).

Robert Hanssen's espionage career illustrates how automated information systems are likely to become the spy's best friend in the years to come. When he first began spying in 1979 by contacting the GRU, the Soviet military intelligence agency, Hanssen had already demonstrated his talent for the technical details of computer systems and data management—skills that were still esoteric at that time. His assignment in the New York FBI field office was to help install a new automated counterintelligence database to track foreign agents at the United Nations and the embassies. Hanssen had access to and used the FBI's automated case databases, its counterintelligence databases, and as he moved through assignments in the Bureau, he gained access to information from other intelligence agencies' databases, including some at NSA, CIA, and the State Department (Cooper & Garvey, 2001). He demonstrated his facility with computers to a skeptical supervisor in 1991 when he hacked into the agent's desktop computer to make his point that the FBI's system was vulnerable (Johnston & Risen, 2001). To check if the FBI suspected his espionage, starting in 1997 Hanssen regularly searched the Bureau's Electronic Case File using variations of his own name as keywords, looking for clues that he was under investigation (U.S. District Court, 2001). Clearly, he knew how to use a computer.

Hanssen collected information for the Soviets and after the collapse of the USSR, for the Russians, by browsing through databases and downloading files onto coded computer diskettes. He then left packets of documents and diskettes at various dead drops using coded messages to communicate with his handlers. He may have compromised some 6,000 pages of highly classified documents. He told the Soviets how the United States was intercepting their satellite transmissions; he gave them collection schedules for "sensors on classified U.S. surveillance ships, aircraft, and satellites." In addition to betraying the identities of several agents who were later executed, Hanssen revealed the secret tunnel under the Soviet embassy used to monitor communications, passed along plans for response to nuclear attack, detailed the FBI's counterintelligence methods, and shared the U.S. intelligence community's assessments of Soviet and Russian capabilities (Eggen, 2001). He tried to take advantage of electronic means of transmission and do away with the risky exposure of dead drops in the local parks. First he proposed to the Soviets that he would set up an office protected against electronic eavesdropping where he could communicate directly with his handlers over the computer "specially equipped with certain advanced technology" (U.S. District Court, 2001). When that scheme came to nothing, he suggested they make use of the wireless Internet technology built into his Palm III hand-held computer. "Such a device might even serve for rapid transmittal of substantial material

in digital form,” he assured the Russians in June 2000 (U.S. District Court, 2001). Hanssen’s espionage based on his information systems expertise was both long-term and serious. Although the government’s damage assessment is not completed, press accounts now label Hanssen “one of Moscow’s most important spies inside American intelligence during the last years of the Cold War” (Risen, 2001).

Summary

This summary synthesizes major findings from these analyses on espionage by Americans during the Cold War and post-Cold War periods.

Background

- From its founding in 1917, the Soviet Union conducted a determined espionage program in the United States that attempted to recruit American citizens to spy for the Soviets.
- From several dozen spies in the 1930s, the number of Americans committing espionage for the Soviets grew during World War II to several hundred; then these numbers sharply declined in the early Cold War years just at the time when public concern focused on the loyalties of government employees.
- Between 1950 and 1975, most cases of espionage by Americans that were prosecuted were members of the military services or civilians employed by the military.
- A shift in policies on prosecuting espionage by Americans in the mid-to-late 1970s, and the enactment of new laws, including the Foreign Intelligence Surveillance Act (FISA) and the Classified Information Procedures Act (CIPA), were responsible in part for the threefold increase in espionage cases made public in the 1980s.

Personal Attributes

- Most American spies have been white males younger than 30.
- Almost half (46%) of known American spies had only a high school education or less.

Employment and Clearance

- Almost equal numbers of civilians and members of the military have spied: 77 civilians and 73 military.
- A majority of military spies have come from the upper enlisted ranks.
- Over the period from 1947 through 2001, twice as many Americans volunteered to commit espionage as were recruited into it.

- Among civilian spies, one-fourth have been employees of government contractors.
- One-fourth of American spies held no security clearance when they began espionage. However, this statement includes a variety of scenarios, including persons who had had access to classified information previously and who relied on memory; persons who stockpiled documents before they lost access; persons who relied on a relationship with a cleared person for access to information; persons who stole classified information; and persons who offered unclassified information deemed sensitive enough to warrant prosecution for espionage.

Patterns in the Act of Espionage

- Most espionage by Americans has been short-lived and poorly paid. Almost half of American spies received nothing for the risks they took in espionage, usually because they were quickly intercepted before they could transmit information. Over the 50-year period, only 4 individuals may have received \$1 million or more. Regardless of payment, there have been instances of long-term espionage that did serious damage to U.S. interests.
- One-fourth of known Americans who tried to commit espionage were intercepted before they could transmit information and apprehended in the attempt; only one-fifth of known cases lasted 5 years or longer.
- Three-fourths of these cases of interception of espionage by Americans occurred during the 1980s, making this less the "decade of the spy," as has been claimed, so much as the "decade of the *unsuccessful* spy."
- Of the 39 cases in which the individual was intercepted before the passing of information, 37 were offering Department of Defense information.
- In each decade between 1950 and 1990, the rate of Americans beginning to spy exceeded the rate of those arrested; only in the 1990s did the rate of those caught exceed the rate who began, when 2 per year began to spy while 3 per year were caught.
- Among those Americans recruited into espionage by a foreign intelligence service, all but one individual succeeded in transmitting information.
- Ten of the 11 American women who spied worked as the accomplices or partners of men.
- The number of Americans currently known to have attempted or committed espionage peaked at 35 in 1985, but since then the number per year has been declining to pre-1980s levels.
- Americans who succeeded in transmitting information were older, better educated, more

often civilians, and more likely to be married than those who were interrupted in an attempt at spying. The most "successful," defined by a public impression of the damage they inflicted and the duration of their espionage, came from most of the civilian agencies and military services. They included persons who reflected the full range of access to classified information from the highest security clearance down to no clearance at all. Among these most "successful" spies, those widely known include: Aldrich Ames (CIA), Christopher Boyce (contractor employee) and Andrew Lee (uncleared civilian), Jeffrey Carney (active duty Air Force), Larry Wu-tai Chin (CIA), Clyde Conrad and the members of his ring (active duty Army), James Hall (active duty Army), Robert Hanssen (FBI), James Harper (uncleared civilian) and Ruby Schuler (contractor employee), Ronald Pelton (NSA), Earl Pitts (FBI), Jonathan Pollard (civilian Navy employee), and John Walker, Jr., and the members of his ring (active duty Navy).

Motivations

- Americans most consistently have cited money as the dominant motive for espionage, and over time money has increased in predominance among motives.
- Of individuals who professed a single motive for espionage, one-fourth of civilians but three-fourths of members of the military claimed that they had spied for money.
- Among volunteer spies, disgruntlement with the workplace was cited as a significant motive: nearly one-fifth of volunteers with a single motive said they had spied from disgruntlement.

Foreign Attachments

- Among the 150 American spies, 83% were native born, while 17% were naturalized citizens. This represents four times the proportion of naturalized citizens in the U.S. population as a whole. (According to the 2000 decennial census, naturalized citizens were 3.8% of the population.) (U.S. Census Bureau, 2000).
- Of American spies who had foreign attachments (defined as relatives living overseas or non-U.S. citizens living here, emotional ties of relationship or professional ties to such individuals, or business connections abroad), two-fifths were recruited by a foreign intelligence service, compared to the group who did not have foreign attachments in which 6 percent were recruited by foreign intelligence. This reinforces concern that foreign attachments represent security vulnerabilities.
- Among American spies, naturalized citizens were more likely to be recruited by a foreign intelligence service than native-born Americans; among those who were naturalized, 46% were recruited by foreign intelligence while 42% volunteered. Native-born American spies were more likely to volunteer to commit espionage, since only 17% were recruited by foreign intelligence while 68% volunteered. Similar small proportions of naturalized and native-born citizens were recruited by a friend or family member (naturalized=12%, native-born=15%).

Applications to the Personnel Security System

- Most known American spies (80%) demonstrated one or more conditions or behaviors of security concern defined in the *Adjudicative Guidelines for Determining Eligibility for Access the Classified Information*, but given the incidence of these issues among the cleared population and the relative rarity of espionage, these factors cannot by themselves predict espionage.
- One-fourth of known American spies experienced a personal life crisis (such as a divorce, death or someone close, or love affair) in the months before they decided to attempt espionage.
- Very few people apply for access to classified information intending to commit espionage; optimal use of personnel security resources for countering espionage would focus more on periodic reevaluation and continuing assessment of experienced cleared personnel.
- Personnel security vetting is not designed to and has not identified ongoing espionage: at least 5 Americans were screened and then maintained their security clearances during periods when they were also committing espionage.
- Reports of behaviors of security concern or personal crises by co-workers have led to the apprehension of some American spies, but reluctance to report these issues has also allowed other spies to persist in their crimes.

Changes in Espionage by Americans Since the End of the Cold War

- The Soviet Union has predominated as the recipient of information from American spies, but 17 other countries have also been willing recipients,
- Since the end of the Cold War in 1991, some 20 Americans have attempted or committed espionage, but characteristics of American spies have changed. Compared to earlier cohorts, Americans who began spying during the 1990s have been:
 - Older, with a median age of 39,
 - More demographically heterogeneous, with more women and more ethnic minorities,
 - More often civilian, with twice as many government employees and twice as many contractors,
 - More successful, with four-fifths passing information,
 - More likely to volunteer to commit espionage, with a 70% rate of volunteering

that parallels the rate of volunteering in the 1980s,

- More likely to hold lower-level security clearances or no clearance,
- More likely to be naturalized citizens,
- More likely to have foreign attachments, with half of the individuals having foreign attachments,
- More likely to cite divided loyalties as their single motive for espionage, with half of the cases citing divided loyalties.

Trends Affecting Espionage in the Future: Globalization and Information Transmission

- Globalization is rapidly creating new international conditions based on global economics that will affect the allegiance of citizens. This development assures that economic espionage will become more important, as dual use technologies blur the distinction between national defense and industrial applications.
- Globalization will demand a new understanding of the meaning of loyalty to the nation and how espionage intersects with loyalty.
- The current revolution in information and communications technologies is changing the scope and practice of espionage: spies' methods of collection, synthesis, and transmission of information are shifting to take advantage of opportunities in these new technologies.

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Appendix A
Names and Selected Variables for Cases Included in the Study

Names and Selected Variables for Cases Included in the Study

Surname	Given Name	Affiliation	Date Espionage Began	Date of Arrest	Volunteer or Recruit	Recipient Country
Ahadi	(pseudonym)	Air Force Civilian	67/00/00	69/00/00	V	Egypt
Allen	Michael Hahn	Navy Civilian	86/00/00	86/12/04	V	Philippines
Alonso	Alejandro M.	Civilian	94/00/00	98/09/10	V	Cuba
Ames	Aldrich Hazen	CIA	85/04/00	94/02/21	V	Soviet Union
Ames	Maria del Rosario	Civilian	92/00/00	94/02/21	R	Soviet Union
Anzalone	Charles Lee Francis	Marine Enlisted	90/11/00	91/02/13	V	Soviet Union
Baba	Stephen Anthony	Navy Officer	81/09/01	81/10/09	V	South Africa
Barnett	David Henry	CIA	76/10/00	80/03/18	V	Soviet Union
Baynes	Virginia Jean	CIA	90/00/00	92/00/00	R	Philippines
Bell	William Holden	Gov Contractor	78/10/00	81/06/24	R	Poland
Boeckenhaupt	Herbert William	Air Force Enlisted	65/06/00	66/10/24	V	Soviet Union
Boone	David Sheldon	Army Enlisted	88/00/00	98/10/10	V	Soviet Union
Borger	Harold Noah	Army Civilian	59/10/00	61/03/03	R	East Germany
Boyce	Christopher John	Gov Contractor	75/05/10	77/01/16	V	Soviet Union
Bronson	(pseudonym)	Air Force Enlisted	77/10/00	78/00/00	V	Soviet Union
Brown	Joseph Garfield	CIA	90/00/00	92/12/27	R	Philippines
Brown	Russell Paul	Navy Enlisted	89/04/00	89/07/25	V	Soviet Union
Buchanan	Edward Owen	Air Force Enlisted	85/05/06	85/05/17	V	East Germany
Butenko	John William	Gov Contractor	63/04/21	63/10/29	R	Soviet Union
Carney	Jeffrey Martin	Air Force Enlisted	83/04/00	91/04/22	V	East Germany
Cascio	Guisepppe	Air Force Enlisted	52/00/00	52/09/21	V	North Korea
Cavanagh	Thomas Patrick	Gov Contractor	84/12/00	84/12/18	V	Soviet Union
Charlton	John Douglas	Navy Civilian	93/07/00	95/05/00	V	France

Surname	Given Name	Affiliation	Date Espionage Began	Date of Arrest	Volunteer or Recruit	Recipient Country
Chin	Larry Wu-Tai	CIA	52/00/00	85/11/22	R	China
Clark	James	Gov Contractor	76/00/00	97/10/04	R	East Germany
Conrad	Clyde Lee	Army Enlisted	74/00/00	88/08/23	R	Hungary and Czechoslovakia
Cooke	Christopher Michael	Air Force Officer	80/12/23	81/05/05	V	Soviet Union
Cordrey	Robert Ernest	Marine Enlisted	84/04/12	84/05/16	V	Soviet Union
Davies	Allen John	Air Force Civilian	86/09/22	86/10/27	V	Soviet Union
DeChamplain	Raymond George	Air Force Enlisted	71/06/05	71/07/02	R	Soviet Union
Dedeyan	Sahag Katcher	Gov Contractor	73/03/00	75/06/27	R	Soviet Union
Dolce	Thomas Joseph	Army Civilian	79/00/00	88/04/16	V	South Africa
Drummond	Nelson Cornelious	Navy Enlisted	58/00/00	62/09/28	R	Soviet Union
Dubberstein	Waldo Herman	DIA	77/00/00	79/0000	R	Libya
Dunlap	Jack Edward	Army at NSA	58/00/00	63/0000	V	Soviet Union
Ellis	Robert Wade	Navy Enlisted	83/02/09	83/02/09	V	Soviet Union
Faget	Mariano	INS	99/00/00	00/02/17	R	Cuba
French	George Holmes	Air Force Officer	57/04/05	57/04/06	V	Soviet Union
Garcia	Wilfredo	Navy Enlisted	85/00/00	87/00/00	R	Unknown
Gessner	George John	Army Enlisted	60/12/07	61/01/00	V	Soviet Union
Gilbert	Otto Attila	Army Civilian	82/04/17	82/04/17	R	Hungary
Graf	Ronald Dean	Navy Enlisted	89/00/00	89/03/03	V	Unknown
Gregory	Jeffrey Eugene	Army Enlisted	84/03/00	93/04/29	R	Hungary and Czechoslovakia
Groat	Douglas	CIA	97/03/24	98/04/01	V	Unknown
Grunden	Oliver Everett	Air Force Enlisted	73/09/28	73/11/02	V	Soviet Union
Haeger	John Joseph	Navy Enlisted	89/10/00	89/12/01	R	Soviet Union
Haguewood	Robert Dean	Navy Enlisted	86/02/00	86/03/04	V	Unknown
Hall	James William III	Army Enlisted	82/12/00	88/12/21	V	East Germany and Soviet Union
Hamilton	Frederick Christopher	DIA	91/02/00	92/00/00	V	Ecuador

Surname	Given Name	Affiliation	Date Espionage Began	Date of Arrest	Volunteer or Recruit	Recipient Country
Hamilton	Victor Norris	NSA	62/00/00	63/0000	V	Soviet Union
Hanssen	Robert Philip	FBI	79/00/00	01/02/18	V	Soviet Union
Harper	James Durward Jr.	Gov Contractor	75/00/00	83/10/15	R	Poland
Harris	Ulysses Leonard	Army Enlisted	67/02/08	67/08/25	V	Soviet Union
Hawkins	Stephen Dwayne	Navy Enlisted	85/00/00	85/08/07	V	Unknown
Helmich	Joseph George Jr.	Army Enlisted	63/00/00	81/07/15	V	Soviet Union
Hernandez	Linda	Civilian	94/00/00	98/09/10	V	Cuba
Hernandez	Nilo	Civilian	92/00/00	98/09/12	R	Cuba
Hoffman	Ronald Joshua	Gov Contractor	86/09/09	90/06/15	V	Japan
Horton	Brian Patrick	Navy Enlisted	82/06/00	82/09/30	V	Soviet Union
Howard	Edward Lee	CIA	84/09/00	85/0000	V	Soviet Union
Humphrey	Ronald Louis	State Dept	76/00/00	78/01/31	V	Vietnam
Irene	Dale Vern	Civilian	84/08/12	84/08/23	R	Soviet Union
Jeffries	Randy Miles	Gov Contractor	85/12/14	85/12/20	V	Soviet Union
Jenott	Eric O.	Army Enlisted	96/00/00	96/06/26	V	China
Johnson	Robert Lee	Army Enlisted	53/02/00	65/04/05	V	Soviet Union
Jones	Geneva	CIA	91/00/00	93/08/03	V	Liberia
Kampiles	William Peter	CIA	78/02/00	78/08/17	V	Soviet Union
Kauffman	Joseph Patrick	Air Force Officer	60/09/00	61/12/00	R	East Germany
Kim	Robert Chaegon	Navy Civilian	96/04/00	96/09/24	V	South Korea
King	Donald Wayne	Navy Enlisted	89/00/00	80/30/03	V	Unknown
Koecher	Karel Frantisek	CIA	73/02/00	84/11/27	R	Czechoslovakia
Kota	Subrahmanyam	Gov Contractor	85/00/00	95/10/18	R	Soviet Union
Kunkle	Craig Dee	Navy Civilian	88/12/00	89/01/10	V	Soviet Union
Lalas	Steven J.	Army Enlisted	77/00/00	93/05/03	Unknown	Greece
Ledbetter	Gary Lee	Navy Enlisted	67/04/00	67/05/00	R	Soviet Union

Surname	Given Name	Affiliation	Date Espionage Began	Date of Arrest	Volunteer or Recruit	Recipient Country
Lee	Andrew Daulton	Civilian	75/05/18	77/01/17	V	Soviet Union
Lee	Peter Hoong-Yee	Gov Contractor	85/00/00	97/00/00	V	China
Lessenthien	Kurt G.	Navy Enlisted	96/00/00	96/04/22	V	Russia
Lipka	Robert Stephan	Army Enlisted at NSA	65/09/00	96/02/23	V	Soviet Union
Lonetree	Clayton John	Marine Enlisted	84/00/00	86/12/00	R	Soviet Union
Madsen	Lee Eugene	Navy Enlisted	79/07/26	79/08/14	V	Unknown
Martin	William Hamilton	NSA	60/08/00	61/00/00	V	Soviet Union
Miller	Richard William	FBI	84/05/00	84/10/03	R	Soviet Union
Mintkenbaugh	James Allen	Army Enlisted	53/06/00	65/04/05	R	Soviet Union
Mira	Francisco de Asis	Air Force Enlisted	82/05/00	83/03/25	V	Soviet Union
Mitchell	Bernon Ferguson	NSA	60/08/00	61/00/00	V	Soviet Union
Moore	Edwin Gibbons II	CIA	76/12/22	76/12/22	V	Soviet Union
Morison	Samuel Loring	Navy Civilian	84/07/00	84/10/01	V	United Kingdom
Mortati	Thomas	Army Civilian	81/00/00	89/12/01	R	Hungary
Mueller	Gustav Adolph	Air Force Enlisted	49/10/00	49/10/00	V	Soviet Union
Murphy	Michael Richard	Navy Enlisted	81/06/00	81/00/00	V	Soviet Union
Nesbitt	Frank Arnold	Air Force Civilian	89/09/00	89/10/14	R	Soviet Union
Nicholson	Harold James	CIA	94/06/27	96/11/16	V	Soviet Union
Ott	Bruce Damian	Air Force Enlisted	86/01/09	86/02/22	V	Soviet Union
Payne	Leslie Joseph	Army Enlisted	74/00/00	74/10/00	V	East Germany
Pelton	Ronald William	NSA	80/01/15	85/11/25	V	Soviet Union
Peri	Michael Anthony	Army Enlisted	89/02/20	89/03/04	V	East Germany
Perkins	Walter Thomas	Air Force Enlisted	68/12/00	71/10/21	R	Soviet Union
Petersen	Joseph Sidney Jr.	NSA	48/03/01	54/10/09	V	Netherlands
Pickering	Jeffrey Loring	Navy Enlisted	82/00/00	83/00/00	V	Soviet Union
Pitts	Earl Edwin	FBI	87/07/00	96/12/18	V	Soviet Union

Surname	Given Name	Affiliation	Date Espionage Began	Date of Arrest	Volunteer or Recruit	Recipient Country
Pizzo	Francis Xavier II	Navy Civilian	85/08/11	85/08/13	V	Soviet Union
Pollard	Anne Henderson	Civilian	85/11/00	85/11/22	R	Israel and China
Pollard	Jonathan Jay	Navy Civilian	84/06/00	85/11/21	V	Israel and China
Ponger	Kurt Leopold	Army Civilian	49/06/15	53/01/14	R	Soviet Union
Ramsay	Roderick James	Army Enlisted	83/09/00	90/06/07	R	Hungary and Czechoslovakia
Rees	Norman John	Gov Contractor	42/00/00	71/00/00	V	Soviet Union
Rhodes	Roy Adair	Army Enlisted	51/12/00	57/06/00	R	Soviet Union
Richardson	Daniel Walter	Army Enlisted	88/01/00	88/01/14	V	Soviet Union
Rohrer	Glenn Roy	Army Enlisted	58/00/00	65/00/00	R	Czechoslovakia
Rondeau	Jeffrey Stephen	Army Enlisted	85/00/00	92/10/22	R	Hungary and Czechoslovakia
Safford	Leonard Jenkins	Army Enlisted	67/02/08	67/08/25	V	Soviet Union
Santos	Joseph	Civilian	94/00/00	98/09/10	V	Cuba
Sattler	James Frederick	Gov Contractor	67/00/00	74/00/00	R	East Germany
Scarbeck	Irvin Chambers	State Dept	60/12/22	61/06/13	R	Poland
Schoof	Charles Edward	Navy Enlisted	89/10/00	89/12/01	V	Soviet Union
Schuler	Ruby Louise	Gov Contractor	79/05/01	83/00/00	R	Poland
Schwartz	Michael Stephen	Navy Officer	92/11/00	96/00/00	Unknown	Saudi Arabia
Scranage	Sharon Marie	CIA	83/12/00	85/07/11	R	Ghana
Seldon P.	Phillip Tyler	CIA	92/11/00	96/00/00	R	El Salvador
Slatten	Charles Dale	Army Enlisted	84/02/00	84/04/14	V	Soviet Union
Slavens	Brian Everett	Marine Enlisted	82/08/31	82/09/04	V	Soviet Union
Smith	Richard Craig	Civilian	81/00/00	84/05/04	V	Soviet Union
Smith	Timothy Steven	Navy Civilian	00/04/07	00/04/07	V	Unknown
Sombolay	Albert T.	Army Enlisted	90/12/00	91/03/29	V	Jordan and Iraq
Souther	Glenn Michael	Navy Civilian	80/00/00	86/00/00	V	Soviet Union
Squillacote	Theresa M.	DoD Civilian	80/00/00	97/10/07	R	East Germany

Surname	Given Name	Affiliation	Date Espionage Began	Date of Arrest	Volunteer or Recruit	Recipient Country
Stand	Kurt Allen	Civilian	72/00/00	97/10/04	R	East Germany
Szabo	Zoltan	Army Officer	67/00/00	89/05/21	R	Hungary
Thompson	Robert Glenn	Air Force Enlisted	57/06/00	65/00/00	V	Soviet Union
Tobias	Bruce Edward	Navy Civilian	85/08/12	85/08/23	V	Soviet Union
Tobias	Michael Timothy	Navy Enlisted	85/08/11	85/08/13	V	Soviet Union
Trofimoff	George	Army Civilian	69/00/00	00/06/14	R	Soviet Union
Tsou	Douglas S.	FBI	86/03/00	88/02/09	V	Taiwan
Tumanova	Svetlana	Army Civilian	78/00/00	87/09/28	R	Soviet Union
Verber	Otto	Army Civilian	49/06/15	53/01/14	R	Soviet Union
Walker	Arthur James	Gov Contractor	81/00/00	85/05/29	R	Soviet Union
Walker	John Anthony Jr.	Navy Enlisted	68/01/00	85/05/20	V	Soviet Union
Walker	Michael Lance	Navy Enlisted	83/09/00	85/05/22	R	Soviet Union
Walton	(pseudonym)	Air Force Enlisted	64/00/00	72/00/00	V	Soviet Union
Warren	Kelly Therese	Army Enlisted	86/00/00	97/07/10	R	East Germany
Wesson	(pseudonym)	Air Force Enlisted	60/00/00	63/00/00	R	Soviet Union
Whalen	William Henry	Army Officer	59/12/00	66/07/12	R	Soviet Union
Whitworth	Jerry Alfred	Navy Enlisted	75/02/00	85/06/03	R	Soviet Union
Wilmoth	James Rodney	Navy Enlisted	89/02/00	89/07/25	V	Soviet Union
Wine	Edward Hilledon	Navy Enlisted	68/08/21	68/09/29	V	Soviet Union
Wold	Hans Palmer	Navy Enlisted	83/05/00	83/07/21	V	Soviet Union
Wolf	Ronald Craig	Air Force Civilian	89/03/00	89/05/05	V	Soviet Union
Wolff	Jay Clyde	Navy Civilian	84/12/15	84/12/15	V	Unknown
Wood	James David	Air Force Enlisted	73/03/07	73/07/21	V	Soviet Union

Appendix B
Cross-Tabulations

Cross-Tabulations

We cross-tabulated many of the variables in the espionage database in 2 by 2 tables to see what comparisons of interest emerged. In simplified form, some of these results have been reported in tables in the previous sections of this report. Here we discuss cross-tabulations that elaborate on or further amplify patterns already noted in the comparisons made earlier.

Length of Espionage

We have already compared those intercepted on their first attempt at espionage with those who did transmit information. In this section we added categories to refine the length of espionage, and cross-tabulated them with other variables.

Table B.1
Length of Espionage by Gender

Length of Espionage	<i>Men</i>		<i>Women</i>		<i>Total</i>	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Intercepted	39	28	0		39	26
< 1 year	29	21	1	9	30	20
1 – 4.9 years	41	29	8	73	49	33
5+ years	30	22	2	18	32	21
Total	139	100	11	100	150	100

In Table B.1 we see that whereas espionage by men was fairly evenly distributed among the four time categories, from intercepted to spying for five years or more, women's espionage lasted longer. If persistence in espionage is a measure of "success," these women, though admittedly only a small group of 11 people, achieved "success" by spying longer than men. Two of these 11 women, Rosario Ames and Anne Pollard, were witting spouses of men who did the espionage and who, while benefiting from it, participated only peripherally. The typical length of an espionage career for both men and women is between one and five years, but while less than one-third of men spied for that range of time, almost three-fourths of the women did so.

Table B.2
Length of Espionage by Age Espionage Began ^a (n=147)

Age Began	<i>Length of Espionage</i>							
	<i>Intercepted</i>		<i>< 1 year</i>		<i>1 – 4.9 years</i>		<i>5+ years</i>	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Less than 20 years	6	16	0	0	1	2	2	6
20 to 29 years	21	55	10	33	13	28	15	47
30 to 39 years	6	16	11	37	13	28	11	34
40 or more years	5	13	9	30	20	42	4	13
Total	38	100	30	100	47	100	32	100
Median age	27		35		36		29	

^a For 3 individuals age is unknown, n=147.

Table B.2 provides more detail on the age when espionage was first attempted. The youthfulness characteristic of those intercepted is evident: over half of those intercepted were in their 20s. On the other hand, so were almost half (47%) of most "successful" group, those who spied for more than five years. The largest group of older spies, those more than 40 years of age, persisted in espionage between one and five years.

Examples of older but no wiser spies include John Charlton, who was a 60-year-old engineer in 1993 when he began trying to sell classified documents that outlined secret Navy stealth and anti-submarine projects. Charlton had retired in 1989 from Lockheed Corporation but he was unhappy with the company, so he took along drawings and plans of the secret projects he had worked on as a contractor. Plagued by grandiose illusions all his life, it frustrated Charlton that authorities did not realize the world-saving potential of his projects, so he offered them to various NATO countries. Caught in an FBI sting, he pleaded guilty and served two years in prison and paid a \$50,000 fine (Chu, 1996). Another retiree with mental instability, Edwin Moore II, retired from the CIA in 1973 taking stacks of classified documents with him. He was arrested in 1976 at age 56 when he tossed a bundle of documents and a note over the wall of the residence for Soviet embassy staff. A Soviet staff member, fearing the packet was a bomb, turned it over unopened to the Washington D.C. police. Moore had taken ten boxes of documents from the Agency, and he had waited three years before trying to make contact with a buyer. Arrested at the drop site he had specified, Moore received a 15-year sentence for his attempted espionage (Meyers, 1977; Associated Press, 1977b).

Table B.3
Length of Espionage by Volunteer or Source of Recruitment ^a (n=148)

Volunteer or Source of Recruitment	<i>Length of Espionage</i>									
	<i>Intercepted</i>		<i>< 1 year</i>		<i>1 to 4.9 years</i>		<i>5+ years</i>		<i>Total</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Volunteer	36	93	20	67	25	52	13	43	94	64
Recruited by foreign intelligence	1	2	7	23	11	23	13	40	32	21
Recruited by friend or family	2	5	3	10	12	25	5	17	22	15
Total	39	100	30	100	48	100	31	100	148	100

^a For 2 individuals the source of recruitment is unknown, n=148.

Table B.3 reinforces the point that volunteering to commit espionage tends to be riskier than being recruited. All but 3 of the 36 individuals who were intercepted were volunteers, as were two-thirds of those whose espionage careers lasted less than one year. Some volunteers overcame the risks and persisted: half of those who spied one to five years were volunteers, and volunteers were 43% of those who spied for five years or longer. Yet two-fifths of those who spied longest had been recruited by a foreign intelligence service.

Table B.4
Length of Espionage by Agencies Owning the Information^a (n=146)

Agencies Owning the Information	Length of Espionage									
	Intercepted		< 1 year		1-4.9 years		5+ years		Total	
	n	%	n	%	n	%	n	%	n	%
Military services (military and civilians)	37	95	18	60	22	48	16	53	94	64
Intelligence agencies	1	3	3	10	13	29	5	16	22	15
Department of Defense contractors	1	3	4	13	6	13	3	10	13	9
Department of Defense							2	6	2	1
Federal Bureau of Investigation			2	7			2	6	4	3
Department of State			1	3	2	4	1	3	4	3
Immigration Naturalization Service					1	2			1	<1
More than one federal agency			2	7	2	4	2	6	6	4
Total	39	100	30	100	46	100	31	100	146	100

^a For 4 individuals the agency owning the information they sold or attempted to sell is unknown n=146.

Table B.4 shows that the military services predominate among government agencies in losing information to espionage. Members of the military and civilian employees working for the military make up the largest group in every category of length of espionage: they are all but 2 of those intercepted, and between one-half and three-fifths of the other three categories. This reflects the fact that of the roughly 3 million security clearances active in 2000 in the U.S., persons employed in the Department of Defense held 2.1 million clearances.

Table B.5
Decade Began by Length of Espionage (n=150)

Length of Espionage	1940s & 50s		1960s		1970s		1980s		1990s		2000s	
	n	%	n	%	n	%	n	%	n	%	n	%
Intercepted	2	12	1	5	3	11	29	45	3	15	1	100
Less than 1 year	1	6	7	32	6	23	10	16	6	30	0	
1 to 4.9 years	7	41	8	36	8	31	16	25	10	50	0	
5 or more years	7	41	6	27	9	35	9	14	1	5	0	
Total	17	100	22	100	26	100	64	100	20	100	1	100

In Table B.5 we can trace the relative length of espionage careers in different periods of time. In the earliest cases, those few that we have included that began in the late 1940s and those in the 1950s, most of the individuals spied for at least a year. Over subsequent decades the proportion of short-term cases, those who were intercepted and those whose espionage lasted less than one year, increased to a peak in the 1980s. In that period almost half of the individuals who attempted espionage were intercepted. Rather than the catchphrase that pegs the 1980s as "the decade of the spy," one might call it "the decade of the *unsuccessful* spy." Of the 64 individuals who tried to commit espionage during that decade, 45% were intercepted and another 16% persisted less than one year, a combined cluster of short-term spies unmatched in other decades. Of the total of 39 persons who were intercepted, three-fourths of them were caught during the 1980s.

Civilian and Military Spies

Comparisons of interest between civilians and military spies that were made in general terms in Part 3 were extended with additional details in these cross-tabulations.

Table B.6
Civilian or Uniformed Military by Age Espionage Began ^a (n=147)

Age Began	Civilian		Military	
	<i>n</i>	%	<i>n</i>	%
Less than 20 years	2	3	7	10
20 to 29 years	18	24	41	57
30 to 39 years	22	29	19	26
40 or more years	33	44	5	7
Total	75	100	72	100
Median age began	39		25	

^a For 3 individuals the age at which they began espionage is unknown, n=147.

Table B.6 reinforces the point made previously that military spies have tended to be younger than civilians. This reflects the relatively young age of most enlisted military personnel and the fact that among military spies, most are the young men at lower military ranks. Among civilians, on the other hand, 44% were 40 or older when they began spying.

Table B.7
Civilian or Uniformed Military by Volunteer or Source of Recruitment ^a (n=148)

Volunteer or Source of Recruitment	Civilian		Military		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Volunteers	43	57	51	71	94	63
Recruited by foreign intelligence	20	26	12	17	32	22
Recruited by friend or family	13	17	9	12	22	15
Total	76	100	72	100	148	100

^a For 2 individuals whether they were recruited or volunteered is unknown, n=148.

In Table B.7 the proportions of volunteers and recruits among civilians and members of the military are elaborated from the simple comparison made earlier to include the categories of the recruiters, either a foreign intelligence service or family or friend. For both civilian and military, more individuals were recruited by an intelligence service than by someone close to them. The most striking finding in the table remains the higher proportion of military volunteers compared to civilians.

Table B.8
Civilian or Uniformed Military by Length of Espionage (n=150)

Length of Espionage	<i>Civilian</i>		<i>Military</i>		<i>Total</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Intercepted	12	16	27	37	39	26
Less than 1 year	15	19	15	21	30	20
1 to 4.9 years	32	42	17	23	49	33
5+ years	18	23	14	19	32	21
Total	77	100	73	100	150	100

Differences between civilians and military spies in the length of their espionage careers are detailed in Table B.8. Military espionage was shorter because twice as many military spies were intercepted compared to civilians. The largest proportion of civilians, two-fifths, continued their spying between one and five years before being caught. Roughly one-fifth of both groups lasted five or more years.

Table B.9
Civilian or Uniformed Military by Occupational Category ^a (n=148)

Occupational Category	<i>Civilian</i>		<i>Military</i>		<i>Total</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
General/technical	10	13	28	39	38	26
Communications/intelligence	22	29	27	37	49	33
Functional support/administration	12	16	12	17	24	16
Scientific/professional	22	29	4	6	25	17
Miscellaneous	10	13	1	1	11	8
Total	76	100	72	100	148	100

^a For 2 individuals the occupational category is unknown, n=148.

Table B.9 documents differences in the occupations of civilians who spied compared to members of the military. For the military the greatest vulnerabilities came from persons in general and technical jobs, which often require access to classified information even though they do not require broad education, and secondly in the communications and intelligence fields. For civilians the communications and intelligence areas were also most important, but scientific and professional occupations were second, while they were less common among military spies.

Table B.10
Civilian or Uniformed Military by Security Clearance Level ^a (n=141)

Clearance Level	<i>Civilian</i>		<i>Military</i>		<i>Total</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
None	29	39	8	12	37	26
Confidential or Secret	9	12	24	36	33	23
Top secret	21	29	29	43	50	36
Top secret SCI	15	20	6	9	21	15
Total	74	100	67	100	141	100

^a For 9 individuals the clearance they held is unknown, n=141.

Table B.10 shows differences between civilian and military spies in levels of security clearances held. The largest group among civilians held no clearance at all: their various circumstances are detailed in Table B.11. Most military spies held Top Secret clearance, with relatively few having access to Special Compartmented Information (SCI). Almost three times as many military spies held lower level clearances, Confidential or Secret, than did civilians.

Table B.11
Circumstances of Individuals with No Security Clearance,
by Whether the Cleared Person Was Civilian or Uniformed Military (n=37)

Circumstances	<i>Civilian</i>		<i>Military</i>		<i>Total</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Spouse of cleared person: active participant	1	4			1	3
Spouse of cleared person: passive participant	2	7			2	5
Accomplice of cleared person	8	30	4	40	12	32
Reliance on a past clearance	8	30			8	22
Reliance on stolen information	2	7	4	40	6	16
Planned to use pending clearance			1	10	1	3
Passed sensitive but unclassified information	6	22	1	10	7	19
Total	27	100	10	100	37	100

Table B.11 summarizes the various circumstances in which individuals committed espionage while holding no security clearance themselves, and compares those who were civilians with members of the military. These cases demonstrate several patterns. In one pattern, the person was an active or passive accomplice of someone with a clearance who had access to information of interest. In a second pattern, the individual relied on his or her memory or on stolen materials from past access to valuable information. Four people simply stole classified information to which they did not have legal access, and one person admitted that he entered the U.S. Air Force planning to sell information once he got a clearance, but he was caught before he could act. One-fifth of these 37 individuals with no security clearance themselves were prosecuted for attempting to sell or provide information that was not in fact classified, but was deemed sensitive defense information.

For example, Albert Sombolay, a native of Zaire who became an American citizen in 1978, joined the U.S. Army in 1985. In December 1990 from his post in Germany he contacted the Jordanian and Iraqi embassies offering to support the "Arab cause." Sombolay passed troop dispositions and examples of chemical warfare gear then being used in the Desert Shield campaign to the enemy, and offered to videotape useful information from Saudi Arabia once he was sent there. Arrested and tried by military court martial in Germany, Sombolay was sentenced to 34 years at hard labor (Holthaus, 1991; Thompson, 1991).

Volunteer or Recruit

In these cross-tabulations we extended the comparisons made earlier of those who volunteered with those who were recruited to include the two different categories of recruits.

Table B.12
Volunteer or Source of Recruitment by Educational Level ^a (n=131)

Years of education	<i>Volunteers</i>		<i>Recruited by foreign intelligence</i>		<i>Recruited by friend or family</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
10 Less than high school	9	10	0		0	
12 High school graduate	38	43	8	30	5	31
14 Some college	11	13	9	33	6	38
16 Bachelors degree	17	19	8	30	1	6
18 Masters or Ph.D.	13	15	2	7	4	25
Total	88	100	27	100	16	100
Median	12 years		14 years		14 years	

^a Education level is unknown for 17 individuals, and for two individuals the recruitment source is unknown, n=131.

Table B.12 reinforces the finding that volunteers were less educated (in part because they were also younger) than recruits. Half of volunteers were high school graduates or less, while in both groups of recruits one-third were educated only through high school. Four of those who allowed themselves to be recruited by someone close to them held advanced degrees.

Table B.13
Volunteer or Source of Recruitment by Occupational Category ^a (n=146)

Occupational category	<i>Volunteers</i>		<i>Recruited by foreign intelligence</i>		<i>Recruited by friend or family</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
General/technical	27	29	4	13	6	27
Communications/intelligence	37	40	7	23	4	18
Functional Support/administration	12	13	6	19	6	27
Scientific/professional	9	9	13	42	4	18
Miscellaneous	8	9	1	3	2	10
Total	93	100	31	100	22	100

^a For 2 individuals the occupational category is unknown, and for 2 others the source of recruitment if unknown, n=146

Table B.13 summarizes further detail on the occupational categories of volunteers and recruits. Among volunteers, two-fifths clustered in communications and intelligence fields. Foreign intelligence services took the most recruits from scientific and professional areas. Those recruited by a family member or a friend came from various occupations with no particular cluster in any one area.

Table B.14
Volunteer or Source of Recruitment by Citizenship ^a (n=146)

Volunteer or Source of Recruitment	<i>Native</i>		<i>Naturalized</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Volunteers	82	68	11	42
Recruited by foreign intelligence	20	17	12	46
Recruited by friend or family	18	15	3	12
Total	120	100	26	100

^a For two individuals citizenship is unknown, and for two other individuals whether they were recruited or volunteered is unknown, n=146.

Table B.14 revisits the question of vulnerability to recruitment by naturalized citizens. In Table 9 above we considered the proportions of volunteers and the two groups of recruits who were either native or naturalized citizens. Here we consider the proportions of native-born or naturalized citizens who were volunteers or recruits. Among the native-born citizens, 68% volunteered to commit espionage, compared to 42% of the naturalized citizens who volunteered. Almost half of the naturalized citizens were recruited by foreign intelligence services, compared to 17% of the native-born citizens. Family or friends recruited comparable proportions of each group.

Table B.15
Volunteer or Source of Recruitment by Foreign Attachments ^a (n=148)

Volunteer or source of recruitment	<i>Foreign attachments</i>			
	<i>Yes</i>		<i>No</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Volunteered	31	48	63	76
Recruited by foreign intelligence	27	41	5	6
Recruited by friend or family	7	11	15	18
Total	65	100	83	100

^a Foreign attachments are defined as persons to whom the individual is assumed to have an emotional attachment, including spouse or intended spouse, parents, or immediate family members, or friends or professional or business associates, who are not U.S. citizens and who may or may not be living outside the U.S.; for 2 individuals who were recruited, the source of recruitment is unknown, n=148.

Table B.15 considers whether those individuals with foreign attachments were more likely to volunteer or to be recruited, and by whom. Almost half (48%) of those with foreign attachments volunteered to commit espionage; slightly more than half were recruited. Most striking is the finding that among those with foreign attachments, two-fifths had been recruited by a foreign intelligence service, compared to 6% of those who did not have such attachments. This reinforces the point that people with ties abroad may well be more vulnerable to recruitment. Standards of judgment for granting security clearances, notably the *Adjudicative Guidelines*, reflect this concern: three of the 13 guidelines assess foreign attachments and involvements of various kinds.

Table B.16
Volunteer or Source of Recruitment by Agencies Owning Information ^a (n=144)

Agencies Owning Information	<i>Volunteer</i>		<i>Recruited by Foreign Intelligence</i>		<i>Recruited by Family or Friend</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Military services (military and civilians)	63	69	17	55	12	55
Intelligence agencies	15	17	3	10	4	18
DoD contractors	7	8	4	13	3	13
DoD agencies	0		1	3	0	
Federal Bureau of Investigation	3	3	1	3	0	
Department of State	1	1	2	6	1	5
Immigration and Naturalization Service	0		1	3	0	
More than one federal agency	2	2	2	6	2	9
Total	91	100	31	100	22	100

^a For 4 individuals the agency owning the information is unknown, and for 2 individuals whether they volunteered or were recruited is unknown, and thus the source of recruitment, if any, is also unknown for those 2, n=144.

Table B.16 compares the sources of information among the groups of volunteers and recruits. Seventy percent of the volunteers offered information that belonged to the military departments, while for the two groups of recruits ownership was more equally distributed. Slightly more than half of those recruited either by a foreign intelligence service or by family or friend betrayed information from the military. Foreign intelligence services sampled from the greatest variety of sources of classified information.

Table B.17
Volunteer or Source of Recruitment by Motivations ^a (n=234)

Motivation	<i>Volunteer</i>		<i>Recruited by foreign intelligence</i>		<i>Recruited by friend or family</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Money	67	44	21	43	15	43
Divided loyalties	18	12	10	21	4	11
Disgruntlement or revenge	37	25	4	8	1	3
Thrills or excitement	13	9	4	8	1	3
Ingratiation	11	7	2	4	12	34
Coercion	0		7	14	1	3
Recognition	4	3	1	2	1	3
Total	150	100	49	100	35	100

^a For 2 individuals whether they volunteered or were recruited is unknown, and thus the source of recruitment, if any, for them is also unknown, and these 2 individuals had 3 motives between them which are not reflected in this table. This table includes individuals with multiple motivations.

Table B.17 summarizes the multiple motivations held by individuals in the espionage database by whether the person volunteered or was recruited, and by whom. Money motivated nearly identical proportions, about 44%, of each of the three groups. In addition to money, the

second-largest proportion points to motives that were most characteristic of each group: for volunteers that issue was disgruntlement; for individuals recruited by a foreign intelligence service that issue was divided loyalties, followed next in importance by coercion; for those recruited by family or friend, that motive was ingratiation. These clusters suggest that an attempt to focus security countermeasures on the type of vulnerability one could suspect from these patterns could be an effective strategy. For example, among individuals with access to highly classified information in a workplace, realizing that volunteering to spy is a potential outlet for people who are demoralized or resentful, management should redouble efforts to maintain a cohesive work environment.

Table B.18
Volunteer or Source of Recruitment by Decade Espionage Began ^a (n=148)

Decade began	<i>Volunteer</i>		<i>Recruited by foreign intelligence</i>		<i>Recruited by friend or family</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
1940 – 1949	3	3	2	6	0	
1950 – 1959	5	5	6	19	1	5
1960 – 1969	13	14	8	25	1	5
1970 – 1979	14	15	7	22	5	22
1980 – 1989	45	48	6	19	13	59
1990 – 1999	13	14	3	9	2	9
2000 – present	1	1	0		0	
Total	94	100	32	100	22	100

^a For 2 individuals whether they volunteered or were recruited is unknown, and thus the source of recruitment, if any, is also unknown for those 2, n=148.

In Table B.18 the numbers of individuals who began espionage in a given decade are summarized by whether the person volunteered or was recruited. A threefold increase in the number of volunteers from the 1950s to the 1960s, to roughly 15 spies per decade, was the level maintained through the 1970s and during the 1990s, but in the 1980s that rate increased threefold again to 45 volunteers. Spies recruited by family or friends show a similar pattern, peaking sharply during the 1980s at almost 60%. The numbers of spies recruited by a foreign intelligence service, on the other hand, was fairly steady at 6 to 8 persons per decade through the 1950s, 60s, 70, and 80s. Only 3 Americans are known from public sources to have begun spying because they were recruited by a foreign intelligence service during the 1990s, but with the passage of time others may come to light.

